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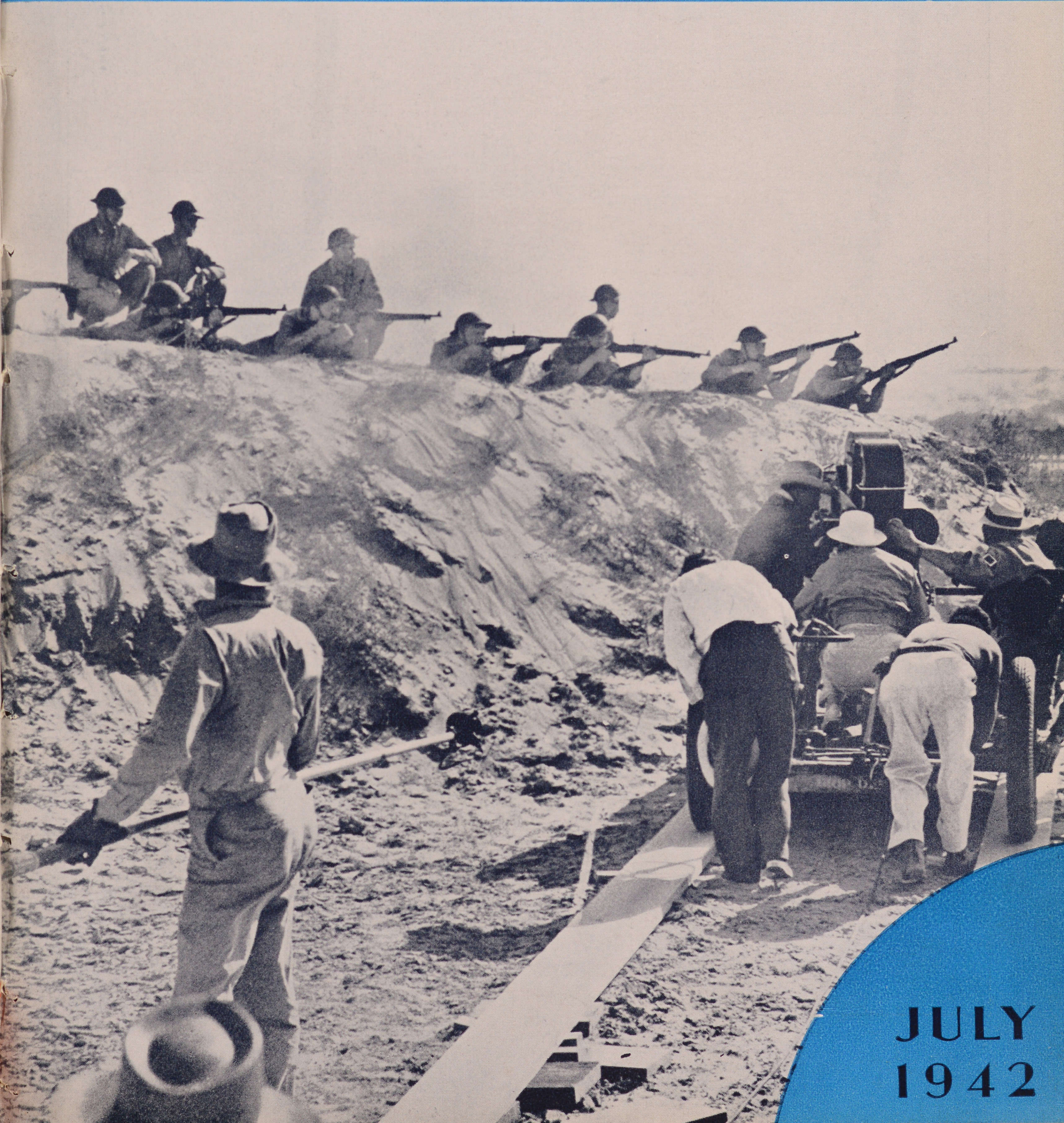

JULY
1942

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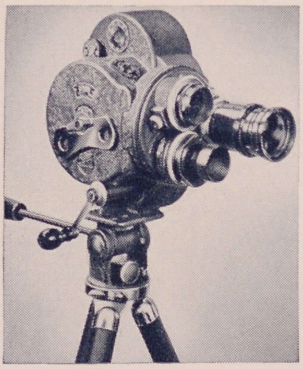

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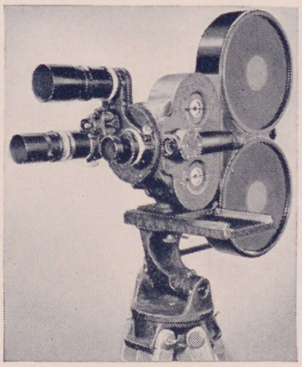

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THE MOTION PICTURE **CAMERA** MAGAZINE

VOL. 23 JULY, 1942 NO. 7

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The Front Cover

This month's cover shows Harry Hallenberger, A.S.C., (seated on right of dolly, with hand on camera) filming a scene for Paramount's "Wake Island." Notice how planked track for dolly is laid across the sand, and use of microphone on pole held by sound-man to pick up sound of rifle-fire. Photo by Malcolm Bulloch.

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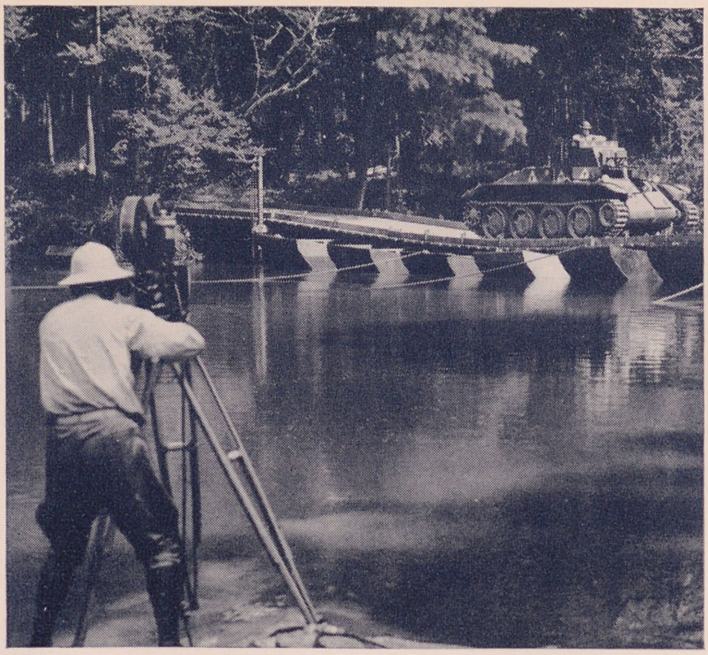
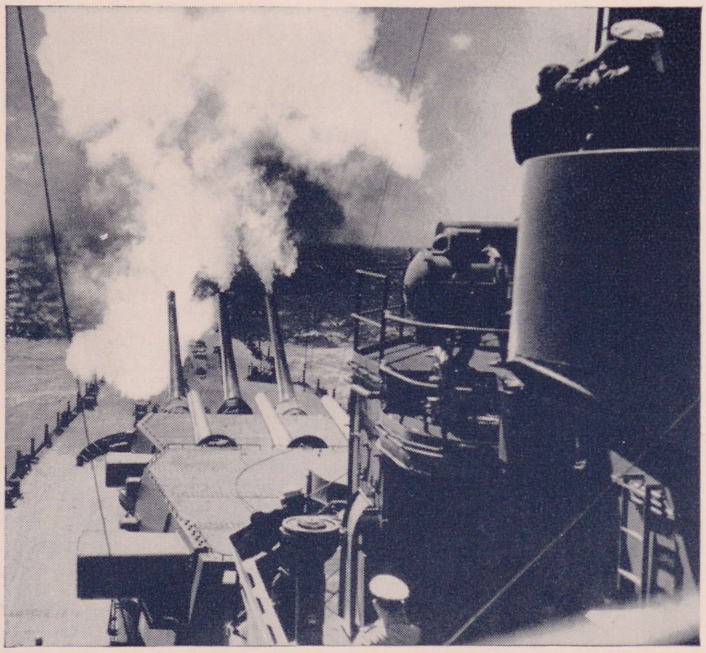


Photo by "U. S. Army Signal Corps."

Army Signal Corps

Official Photograph "U. S. Army Air Corps."

Army Air Corps



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British Film Technicians And The War

By GEORGE H. ELVIN, F.C.I.S.

General Secretary, The Association of Cine-Technicians (England).

SINCE the outbreak of the war in 1939, Britain's film technicians have faced much the same problems that have confronted their fellow-workers in America since Pearl Harbor. Together, we have a war to be fought and won—a war which calls for the services of our fittest manpower in the fighting services, and in specialized technical branches for which their peace-time technical training may qualify them. In addition, motion pictures—both those produced by and for the Armed Services, and those produced for civilian entertainment as well—are being recognized as increasingly essential adjuncts of the War Effort.

Here in England, the problems have been considerably greater than those yet encountered in Hollywood. The military demand for manpower has been proportionately greater in our country than it has so far needed to be with you; over a third of the pre-war membership of the A.C.T. has gone into the Armed Forces, either by call-up or volunteering. The loss among the other film unions has been at least as high.

On the other hand, the volume of production has increased enormously. The small decrease in feature production has been far more than offset by the tremendous expansion of short-film production for the various Government Departments, the Armed Services, and so on.

Bear in mind, too, that even at its period of greatest expansion, when many key technical and creative posts were filled by specialists from Hollywood, the British Film Industry has never had the tremendous reserve of technically trained manpower you enjoy in America. Capable, experienced technicians we have had: but never have men with ten, twenty or thirty years' experience stood five or ten deep for every available job, as I understand is the case in Hollywood. Consequently, carrying on this expanded production with our trained manpower drastically slashed, and all sorts of difficulties in the way of obtaining and training replacements, has been a problem which is not altogether solved even yet.

A very important complicating factor has been Government indecision as to whether films were or were not a weapon of war (though our enemies' use of films is some countries, such as Norway, should have given an excellent clue to this), and in consequence, there has been a lack of coherent policy, both as regards the type and nature of films to be produced, and as to keeping available the necessary personnel for making these films. The first two of these factors—the films' part in the war, and the type of films needed—have become a good bit clearer as the war has developed. The latter—manpower—continues to be a difficult problem, as each successive demand for men is made by the Armed Forces. Overall statutory reservation of labor for any industry is largely non-existent now, and an individual case has to be made for the retention of every single technician at his job, as against his call-up for military service.

Naturally, neither the employers nor the unions oppose the industry's yielding up its quota to the Forces. Our one claim is to retain the key technicians and to obtain opportunity to train others, so that we can keep on doing the job we, as civilian producers and technicians, are called upon by the Government to do.

At the present writing, due to the very strong representations made by the A.C.T., the Ministry of Labor has appointed a Manpower Panel, upon which the A.C.T. is represented by its General Secretary, to survey the industry's personnel needs. After many meetings, this Panel issued a report, accepted in substance by the Minister, which will assure a reasonable nucleus of film technicians and other workers being retained for film production.

This nucleus must, of course, be reinforced by women and other trainees, including men over military age, and young boys well below the lower call-up limits. This is now being done, and women are now doing jobs which have hitherto been exclusively done by men. Sound Camera Operators in the studios, and laboratory printers are just two examples. First preference for such jobs has of course been given the wives of A.C.T. members serving in the Forces. The Association has created a special War Emergency Membership Section in which such technicians are placed. Women trainees are an additional problem since all women under 30 are liable for industrial transfer to the munitions and other key industries.

The laboratories threaten to become quite a serious bottleneck in production. We do not have the number of laboratories you have in America, and the personnel losses of our labs to the Armed Forces have been greater than in the studios, while their work has increased enormously. Women and youngsters have been introduced, but in insufficient numbers. They could not have been introduced in greater numbers, partly owing to the shortage of skilled personnel to train them, and partly because the skilled people remaining have been so busy keeping up production that they have had very little time to devote to training.

But the picture of Britain's film industry in wartime is by no means entirely one of problems. Production, as previously mentioned, is decidedly up, and the war has brought about many decidedly advantageous conditions. A few of our current entertainment films have no connection with the war, but the vast majority have a war angle. Particularly popular at the moment are films based on war incidents, as for example, "The Foreman Went to France," and "One of Our Aircraft Is Missing."

The British industry today is smaller than it was before the war, but more virile. Just over a third of our pre-war studios are operating—the rest are used for other purposes—but those that are working are operating at maximum capacity; any decrease in feature production is more than offset by a great increase in the shorts field. With all of this, employment is inevitably much more constant than it has ever been. Most of our studios, you know, are "rental" studios, in which several producing companies rent stage space and facilities as they are needed. Most of our film workers now are permanently employed at one studio, if not always by one company. The few who still free-lance have no difficulty at moving straight from one job to another. The fly-by-night "quickie" producer who based his business on cheap labor and long hours and brought such discredit to the industry has vanished.

The benefits of all this show tangibly on the screen. The technical quality of British production is higher than it has ever been in the past. In addition, we are receiving a pleasant surprise in the great success of the younger technicians who have seized their first chance as directors and directors of photography (or "lighting cameramen," as we call them here) and brought a youthful freshness and enthusiasm to our pictures.

Another recent development has brought into being something British film technicians have long wished for—the chance to make their own productions. In addition to making the films for which they are employed, technicians in several studios are starting to make films voluntarily, on their own, as their own direct contribution to the War Effort.

The first of these films (a two-reeler) has just been completed at the Denham Studios. The studio gave the facilities; Kodak gave the film-stock; artists, technicians and artisans gave their services; and the laboratories processed the film without charge. The cost for the other necessary components of the film—set materials, and the like—amounted to less than £500, which was raised in various ways (subscription sheets, raffles, etc.) by the workers themselves. "Our Film," as this first picture is called, deals with the necessity of maximum cooperation between employers and labor in order to ensure maximum efficiency in production, elimination of bottlenecks, and so on. A second film, made similarly by the workers at the Shepherds Bush Studios, is about to go into production.

Another important activity of the A.C.T. has been that of the Committee recently appointed to study the problems of making production more efficient. This Committee has turned in its first report, which includes recommendations on such matters as making final shooting scripts available earlier to technicians; the suggestion that costs could be cut by providing a period of rehearsal for actors before shooting commences; minimizing the number of sets written into pictures, and a closer exchange of information about sets being constructed by producers using the same or nearby studios; suggesting further investigation into the possibility of inter-studio collaboration in instances where floor space in one may be so restricted as to render difficult the painting of large-scale backings, etc. Other recommendations cover such points as suggesting a more extensive, and coordinated use of process-work, with a recommendation that permanent special-effects departments should form a part of regular studio service; the need for better coordination of stock-shot material and libraries, including in some instances pooling of library facilities, quicker and more efficient filing of material shot for a specific production, but worth preservation as library material, and better organization and staffing of the Ministry of Information's rapidly-growing collection of useful film material; and of course means for better preservation of film—both negative and prints—in such libraries.

Similar recommendations, also growing out of the committee-members' wealth of practical experience, similarly cover the making of short films for propaganda and military instruction. It all boils down to the fact that modern total war demands of its film-makers total efficiency, and a degree of cooperation between the people for whom the films are made and the technicians. Producers on both sides of the Atlantic could save vastly on the time, effort, money and physical construction going into their films, and obtain better pictures into the bargain if they would only give a more attentive ear to the suggestions of their technicians on such points. Since even so tragic an occurrence as a war must bring forth some good fruit, let us hope that the present emergency may result in at least some improvement in this direction!

Britain's Army, Navy and R.A.F. Film Units make films for training, propaganda and record purposes. Above, Anzacs in action, from an official combat film.

We have mentioned at the start of this article that over a third of Britain's film technicians have gone into the various military services—the Army, the Navy, and the R.A.F.—where they are serving with distinction not only at home, but in every field where our Forces have been in action.

The first, and smallest group of these are many who joined the Armed Forces in the usual way, by volunteering and call-up. Some of them (mainly the younger ones) are serving at ordinary military jobs, in the usual way. Others (particularly sound technicians) are assigned to special jobs where their peacetime technical knowledge is proving of especial value.

But by far the greater number of our film technical people have either joined or been assigned to their Services' film and photographic units. These include the Royal Naval Film Unit, the Royal Air Force Production Unit, the Army Film Unit and the Army Kinematograph Service (Film Production Unit.) A few (mainly still photographers and laboratory technicians) are on duty with the Services' respective Photographic Sections.

Now (it was not the rule in earlier days) technicians volunteering for service with these units have to do a period —generally three months—of ordinary service to receive the necessary military indoctrination, before transfer to these Film Units. In this connection, it may incidentally be mentioned that our Services' requirements as to age seem to run somewhat differently from what I understand is the case with the U.S.A. Forces, where an upper age limit of 45 is rather rigidly adhered to. With us, the only technicians who are generally barred from the Service Film Units are those under 25 years of age, although there are of course exceptions. Those under this age are called up for and serve in the Armed Forces in the ordinary way.

The heads of the respective services are responsible for recruitment of their own film personnel, but close contact is maintained with the A.C.T., and the General Secretary of the Association sits on the Appointments Board which consider applications for transfer to the Film Units. To employ a homely metaphor, it is our aim to fit each human peg into its right-shaped military hole, and we recognize that the mere fact that an individual has had some job in the film industry does not necessarily mean that he would be more useful to the Nation working in a Film Unit than he would be shouldering an Enfield, while on the other hand, other technicians can be enormously more valuable to the War Effort with a camera

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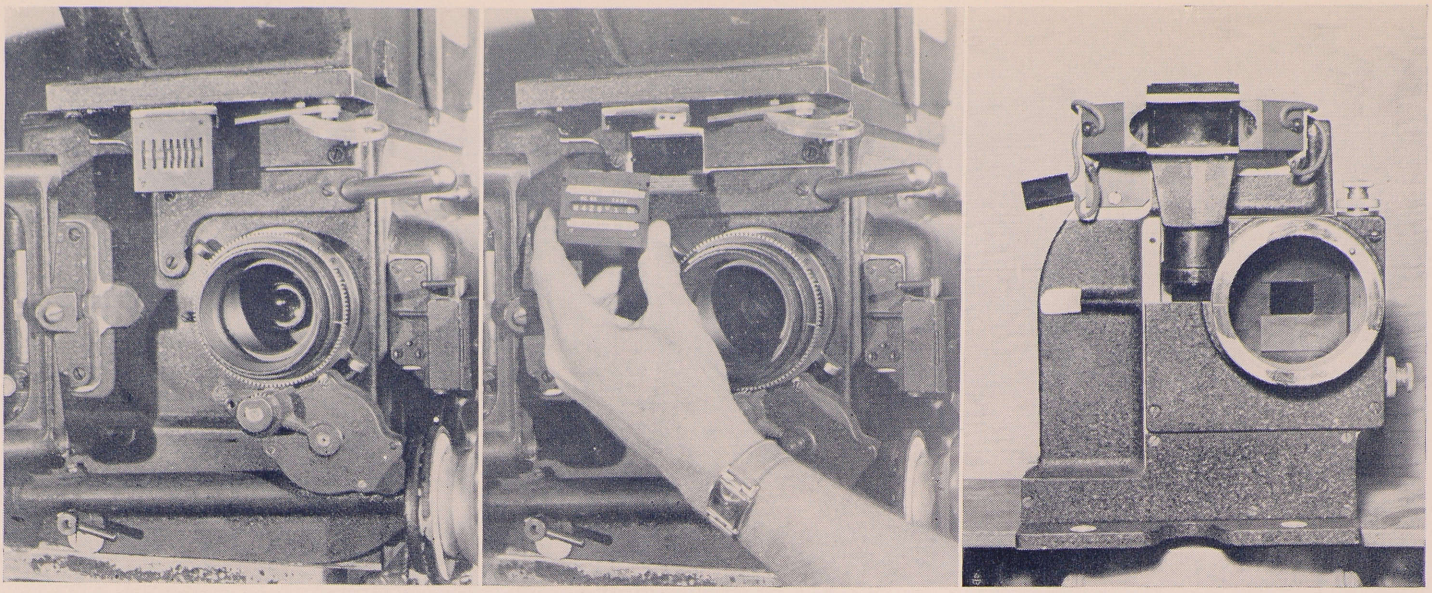

Mitchell BNC Camera equipped with the new slater; center, data-tablet removed to show dials; right, method of installation. Photos by Bert Longworth.

WARNERS BUILD IMPROVED SCENE SLATING DEVICE

By WILLIAM STULL, A.S.C.

As the industry pays more attention to the wartime need for saving film, it seems inevitable that increased use will be made of built-in scene slating devices by which the footage inevitably consumed in bringing the camera up to speed is also utilized to record scene and take numbers and similar important data. During the past year, two such devices have been pioneered and put into use, respectively by Paramount and 20th Century-Fox. A third, and in many ways greatly advanced design has been evolved at the Warner Brothers' Studio, and is now being fitted to that plant's Mitchell BNC cameras.

Outstanding advantages of the new slater include the facts that it is housed directly within the camera; that it is almost completely automatic in its operation; and that it always provides a sharply-focused, full-frame slate, regardless of the lens being used and independent of any filtering or diffusion the cinematographer may employ. While designed expressly for the Mitchell BNC model, which is standard equipment at the Warner Studio, it could, if necessary, be adapted for use with other Mitchell models, though some changes in both slater and camera would be necessary.

The principle of this slater is remarkably simple. It makes use of the fact that in focusing the Mitchell camera, the camera-movement is racked over to the right in order to bring the focusing optical system into place behind the lens. The slater is placed on the right-hand side of the camera-housing, in such a position that when the camera is racked over, the film-carrying aperture is in position behind the slater's optical system. In use, the camera is simply started in this racked-over position, and held there until up to speed, when it is thrown over to photographing position, and the scene is filmed in the normal manner.

As the camera is racked over to shooting position, the light-source illuminating the slater is automatically turned off. This light-source, incidentally, automatically provides a sync-mark on the picture-film, as when the camera is racked to focusing position, the illumination from the slater's self-contained light-source fogs the frame of film upon which the take starts.

This system is made possible by the fact that the BNC Mitchell is a single-lensed, rather than a turret design, and because the BNC's double-walled self-blimping case affords convenient space for building the device directly into the camera-housing.

At the front of the outer case, directly below the magazine platform, an opening is milled to receive the tablet of the slater. Behind this is fixed a small, front-surface mirror, which reflects the image of the slater's dial downward through a tubular housing which contains the 3" lens which forms the slater's optical system. Beneath this lens, a right-angle prism reflects the image onto the film, passing through an opening cut in the camera's inner housing.

The data-carrying tablet of the slater fits into a dovetailed slide at the top of the assembly. Such data as the production number, the date, and the names of director and director of photography are carried on two slips of typewritten cardboard which slide into carriers above and below the scene-numbering dials.

The scene and take numbers, as well as abbreviated notations classifying the scene as a Day Exterior (Dx), Night Exterior (Nx), Day Interior (Di), Night Interior (Ni), or Wild Shot (Ws), are carried on a series of rotating dials. These dials are operated from the opposite side of the slating-tablet, outside the camera. Pilot indications appear on the outside of the slater, so that scene or take numbers may easily be changed without removing the tablet from the camera. As a precaution to assure that the Assistant will take pains to check the slate setting carefully, however, these pilot indications outside appear inverted. They are large enough so that they may be read easily enough if one concentrates on it; but being inverted, it is difficult to read them — perhaps wrongly—at a quick glance.

The slater's dial is illuminated by two small, 18-volt light-globes of the type used on toy trains and the like. They are burned at 14 volts, assuring long life, and are powered from any convenient source of 110-Volt current, either A.C. or D.C., and of course including battery-power for location use. The current is reduced to the proper value through an adjustable resistor built into the camera's case, and by means of which the illumination may be accurately set to predetermined values for any type of film, and for either interior or exterior use. The two lamps, together with a pilot-light mounted at the rear of the camera, are wired in series, so that in the event of failure of either the power-supply or one of the globes illuminating the slater, the camera-operator is warned by the fact that the normally

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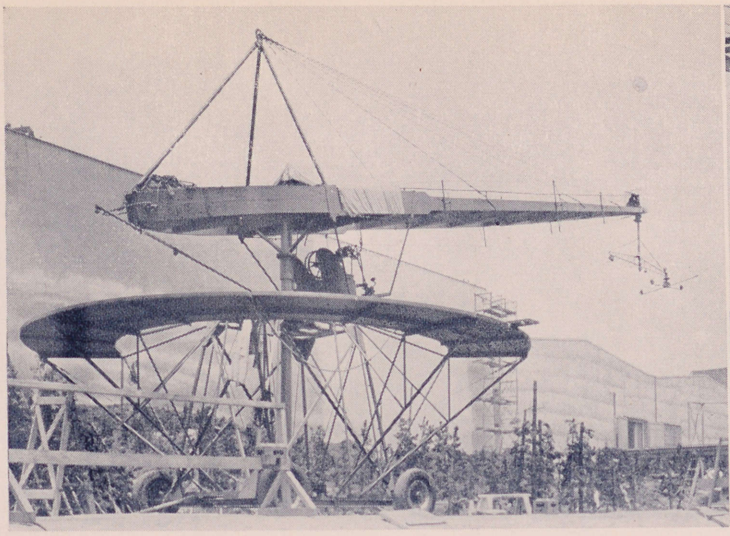

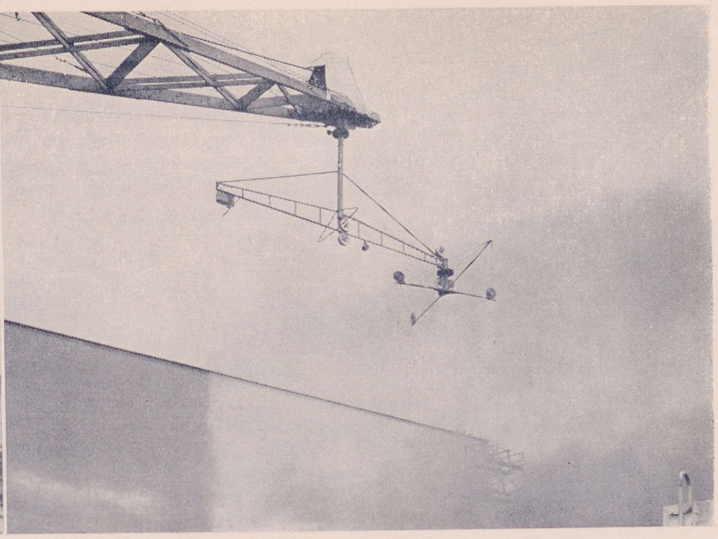

A Boom For Operating Miniature Airplanes

By GORDON JENNINGS, A.S.C.

Head of Special Effects Department, Paramount Studios

THE conventional method of operating miniature airplanes — *i.e.*, suspending it from a carriage rigged to travel on overhead wires stretched across the set—has served excellently for many years, but it has definite limitations, chief of which is that the miniature plane is restricted to travel in a straight course. This did not seem an insurmountable obstacle in normal times, when we could make more or less extensive use of actual aerial scenes with full-scale planes: but today, with wartime restrictions limiting, and in many instances prohibiting actual flying operations, miniatures must carry more and more of the burden of providing aerial scenes for our films. And with the war being fought so largely in the air, this demand is almost certain to increase still more as time goes on.

At the Paramount Studio we are meeting this need by the use of a large boom, specially developed to permit completely flexible operation of miniature aircraft. The boom itself is mobile, and permits making straight "flights" of any duration by rolling the entire device along on its wheeled carriage. The 50-foot boom arm, in addition to being raised or lowered, revolves through a full 360° horizontal circle. In addition, the primary supporting member mounted at the outer end of the boom revolves, and the sub-frame from which the miniature plane is actually supported and controlled also revolves, so that with the possible exception of looping, virtually every evolution of a real plane can be duplicated in miniature. Moreover, control of the miniature plane is considerably more precise than has hitherto been possible by conventional methods.

The development of this device was brought to a head by problems encountered in planning one of our current productions, "The Forest Rangers." The story deals with the Aerial Patrol Service of the U. S. Forest Service, which makes use of airplanes for patrolling our National Forests, spotting fires, and then often dropping men and equipment for fighting them. The script called for a good deal of spectacular aerial action, including planes flying low over the forest-tops, spotting fires, circling them to determine the extent of the blaze, often flying right through the smoke of the fire, and dropping men and equipment by parachute.

Photographing these scenes in actuality would be difficult, hazardous and expensive. In addition, the Forest Service authorities declined to give permission for this type of flying over the forests. The use of miniatures was the only way we could possibly film this action—and we could not do it in miniature by conventional methods!

Therefore we built this boom so that we could do it. We of the photographic staff of the Special Effects Department outlined what we had to do, and how we thought it could be done, and Ivyl Burks, of the Department's mechanical engineering staff, engineered our ideas into actuality. All of us, including Burks, had for sime time been cherishing a dream of a device like this, so it can probably be said that the boom was at least half designed long before a line was drawn on paper.

As will be seen from the illustrations, the boom is based on a sturdy, four-wheeled chassis which carries the tubular supporting member upon which the boom-arm revolves. Suitable bracing is provided to reinforce this upright member, and a wide, semi-circular catwalk is provided for the crew who operate the boom-arm. At the head of this supporting member, the boom-arm pivots, both horizontally and vertically.

The boom-arm itself makes use of a banjo-type truss—the first time, I believe, that this particularly efficient type of construction has been used for such a purpose in our industry. The original design called for all-metal construction, but because of the wartime need for conserving metals wherever possible, airplane-type laminated spruce was substituted, with very satisfactory results. The wooden boom is a trifle bulkier, and may perhaps require a bit more bracing wires than the originally-planned metal construction, but it is strong and rigid, and will certainly last until considerably after the time when we can once more obtain metals for construction of this sort.

At the outer end of the boom, as can be seen from the right-hand picture, is mounted the double assembly which supports and controls the miniature plane. The primary support is a counterweighted truss of welded steel tubing suspended from a tubular mount, upon which it revolves. At the outer end of this primary support is the carriage which actually supports and manipulates the plane. This in turn revolves about its mounting on the tip of the primary mount, and carries a welded steel frame from which descend the three conventional wires which, attached to the wing-tips and tail of the miniature, make it fly level, climb, dive or bank.

Control of the miniature is in the hands of two operators who sit in bucket seats on a control-platform suspended beneath the boom-arm. By means of automobile-type steering wheels attached to drums upon which the wires supporting the plane are wound, they make it nose up or down, bank, or remain level. Supplementary controls revolve the primary and secondary

(Continued on Page 333)

Making Documentary Films To Meet Today's Needs

By JORIS IVENS*

As field after field of productive and creative work respond to the pressure of the all-out war effort, as the need for a record of history-in-making becomes insistent, the documentary film stands out as an important vehicle through which we can evaluate the quality and intensity of the fight for democracy as well as propagate its tested principles and urgent necessities.

Serious creative workers in the movie industry are turning directly to the documentary, as instance directors Frank Capra, John Ford, John Huston; the story-film itself has begun to show the deepening influence of the documentary method as can be seen in pictures like "Target for Tonight," "The Invaders," and even elements in "How Green Was My Valley."

In view of the ever more important work which lies ahead for the documentary film, I have thought some discussion of my experience and conclusions may be of value. I do not propose them as final principles, but simply as working notes to be used in the light of the reader's own experiences.

The problems of the documentary are too manifold and the processes too complex to be handled by a single man. The director still has responsibility for the film as a whole. Usually his is the initial conception, and his constant concern over all the processes will stamp the film with his personal style.

Nevertheless, the director works with a group as skilled in their functions as he is in his, and his leadership over them is only temporary. It exists in a realization of his dependence upon them and of the interdependence of the members of his group. An understanding of the relationships within such a group is of vital importance to the profundity and quality of our documentary films. You make a film not by a belt-system, but by team work.

The first days of work on location mark a point for reevaluation. Here is the first clash of fact with the concept written into the script. The director must be extremely sensitive to this clash with reality. In it lie all the several directions (bad as well as good) that his film can take. Your set is the real world, and you have to look all around you before focusing your camera on a corner of it. Even if you wished to keep aloof, life has a way of making your film a part of it. A documentary film about a war, for example, is very closely connected with the mood of the people fighting that war. In China we found that the day-to-day shifts in the political and military situation affected the course of production. In Spain, the same thing—with the additional factor that the enemy regarded a man with a camera as a distant target no different from anyone else.

In general, all large mutual readjustments between the location and the script should be gotten over with in the first few weeks. Once the director and the writer have fixed on the general construction, the line of the shooting must be kept steady. The details must, and will, continue to be effected by the reality of your subject, place and people.

Films on wood sculpture, or on the operation of a bridge, should have no trouble in touching the reality of their subjects. But films on larger, more important themes, require a deeper approach. For such themes, it is necessary to find the social reality, then find the essential drama of that reality. If this drama can not be made the chief line of the film, another real drama must be found, or it must be compressed into some portion of it. There must be a place in the film for both love and hate. If the essential drama is ignored, your film will lack both color and, more tragically, conviction. To walk deliberately away from this drama is to walk toward formalism, mysticism, harming the work of each member of your group. Only as long as your subject is firmly connected with dramatic reality, can the film you are making develop you and your co-workers artistically.

A word should be said on the interrelations of your working group. A typical crew working continuously on location would include: director, writer, cameraman, assistant cameraman, and business manager. If necessary some of these functions can be held by one person, as a writer-director, or writer-assistant cameraman.

Inevitably this group, even if not ordinarily difficult, are somewhat different when they are on location. They are separated from their friends and wives and ordinary habits. Therefore the director has not only to be an artist, the creative source of the film, and an engineer who can superintend all the various techniques, but he must be a group-leader as well. These four or five people are all necessary and important in the practice of an art, and the director has to realize that in documentary films there is the realistic possibility of every group member particularly the cameraman) moving up into direction soon. Thus he has the responsibility of developing the directive abilities of the group.

The writer of a documentary film should accompany the crew on location. This procedure has been repeatedly proven to me of such value that I now consider it a necessity where the film has an elaborate theme. It is a test of the writer's viewpoint and imagination and is of the utmost importance to the progress of the film. Shaping the constant change of reality into the dramatic structure of the growing work, and becoming interested and involved in social, political and even seasonal changes in the environment—the writer's work is not done till the film is done.

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* Producer-director of "Our Russian Front"; "The Power and the Land"; "The Four Hundred Million"; "Spanish Earth," etc.

The writer can help the director in the conferences that keep them in touch with the changing situation on location, the home office, and the rest of the world. With the director and cameraman usually dog-tired at the end of the day, prevented from thinking creatively, the writer is depended upon to be their spur, to broaden the film's subject, in drama and detail, while they are all away from the specificity of the camera. Another way in which the writer can help is to become aware of each member of the group as a person, sensing needs and troubles before they are expressed. He must help to keep the group happy, a point which will be understood by anyone who has suffered in doing film work in a glum atmosphere.

On the other hand, the writer is subject to certain difficulties by his very presence on location. A special danger, at the time of the first clashes between the concept and reality, is the temptation to cast aside his literary qualities, relying entirely on the strong visuals around him. This has to be guarded against by the director.

Outside influences affect the cameraman, too, and the director and writer must protect him from everything that makes his job any more physically exhausting than it already is, even to carrying the camera. The cameraman should have an assistant to keep the work moving quietly and to relieve him of technical detail.

The documentary film has one force—individual styles notwithstanding—it is taken on the spot. This gives a convincingness it must always have, and too much emphasis on reenactment can be dangerous. Sixty per cent of an average documentary has nothing to do with non-actors. "New Earth" had none, "Borinage" only two short sequences of reenactment. There will always be certain themes that are best carried out in a purely documentary style, but there are others that demand considerable reenactment, and by reenactment I mean the reconstruction of an emotional situation, not merely the redoing of a familiar act.

And this brings up the familiar question of naturalism. The basic question is not "Is truth depicted?" but, once the truth has been depicted, "Has the truth been made convincing enough to make people want to change or emulate the situation shown to them on the screen?"

On the whole, we all recognize the danger of too much naturalism in documentaries. We are learning to conceive documentary film as an emotional presentation of facts. Therefore we must learn to think of documentary as requiring a wide variety of styles—all for the purpose of achieving the maximum expressiveness and conviction.

In filming "Borinage" there were instances when the objects in front of the camera were too satisfying esthetically; sometimes the poverty and dirt had tonal values that caught the eye pleasingly. Our job was to prevent the audience from being distracted away from unpleasant facts by agreeable objects. As in music, there is often a need for dissonance in saying (or yelling) what you want your audience to hear.

Here we come to the problem that has attracted and sometimes baffled us for many years: the handling of non-actors. In reenacting a situation with a group of extremely pleasant persons, who for your purposes have become actors, the danger of letting them do what they like, of falling back on pleasant, easy naturalism, is even greater. And as your location work progresses, the non-actors become the central figures in your group, creating problems that temporarily force all the other problems out of your consciousness.

Our "Power and the Land" film presented material that seemed to demand reenactment. The ease with which the subject took shape as soon as we decided on this treatment seemed a sort of proof that we were right. In choosing the people who were to play the roles (of themselves—the farmer as the farmer, his sons as the farmer's sons, etc.) the first visual impression is very important. Casting has its own difficulties, too. A father and son may work well separately, but not at all well when they're together in a scene. To get close enough to these people, to work with them, the director must be sensitive to these relationships.

The writer must employ his imagination to manipulate the real, personal characteristics of the new actors—searching them with seemingly careless observations. He must learn thereby, for example, that the farmer takes special pride in the sharpness of his tool-blades, and therefore suggest a tool-shed scene which will make use of that fact. The key to this approach, I think, is that a real person, playing himself, will be more expressive if his actions are based on his real characteristics.

My experience has been that directions to non-actors who are playing together should usually be given them separately, so that a certain amount of unrehearsed action can be counted upon. To get natural reactions we played tricks similar to those Pudovkin has recorded, and some of them worked. For example, the father was filmed receiving a notification from the dairy that his milk was sour; he expected to unfold and pretend to read a piece of blank paper. But he read instead a startling message from me, complaining about his sour milk in no uncertain terms.

The cameraman has to understand the special difficulties of working with non-actors. The director and the cameraman have to invent dramas, sometimes, to render tolerable the length of time needed for lighting and camera adjustments.

Above, top: Chinese coolies carrying wounded on stretcher; below, scenes from Ivens' "Spanish Earth." On opposite page, left, Chinese troops advancing; right, Ivens (dark trousers) discussing a scene for "The Four Hundred Million."

The surest way to avoid loss of time with retakes is to know and anticipate the real movements of the man, to catch the regular rhythm of his normal action (which is far from reenactment). The whole action should be watched (away from the camera) before breaking it up for filming. And the breaking up, and covering, shots should absolutely include beginnings of an action, endings of the action, and the places where the worker rests—not just other angles of the most exciting sections of his movement. Thus you get material for good human editing. Covering shots should also include shots between the close-up and the medium-shot, so as to have within one shot both face and action.

I advise you not to fool with a man's professional pride. Don't ask a farmer to milk an empty cow, even though it's just for a closeup of the farmer's face. He fights such an idea because to him it is false.

Even as simple a rule as "Don't look at the camera" is bound up with the man

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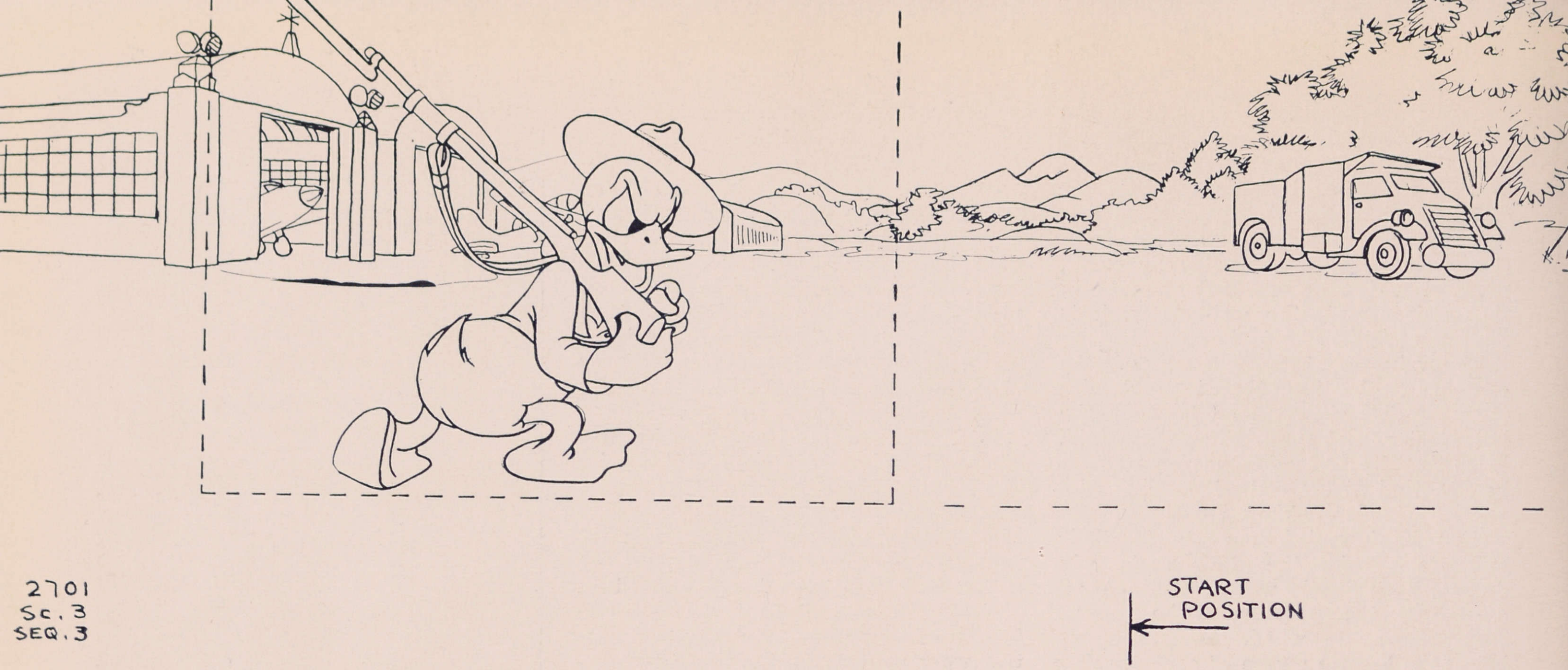


Animated Cartoon Production Today

Part IV: Cleanups and Inbetweening

By CARL FALLBERG

THE preceding installment in this series followed the procedure of animation up through the creation and photographing of the first rough drawings that illustrated the action of the scene. If the first film test of the rough action looks all right to the director, the okay is given to "clean up" the drawings, preparatory to the processes of inking and painting.

This "cleaning up" involves making the final, detailed drawing that will be traced into the cell by the inker. It's usually done by the animator's assistant, who edits the rough extremes down to a careful drawing, with true shapes, proportions and sizes. Sometimes, however, a cleaned-up drawing has a "tightness" that many animators bemoan, for they feel their first rough has a freedom and spontaneity that is lost as soon as the drawing is reduced down to a form with a single outline. No doubt this is true, but the necessity for cleaning-up the drawings is one of the practical requirements imposed by the assembly-line system of cartoon production. If every line on the drawing didn't mean something and retain a consistency of placement, the inker, when tracing the drawing onto celluloid with a single, hard pen line, wouldn't know exactly what pencil lines to trace in defining a certain form, and the painter wouldn't know the exact limits of the area on which to apply the paint.

Efforts have been made to soften the hardness of the inked outline by using colored inks, and to alleviate the flatness of the painted character by applying tones and shadows by the air-brush or dry-brush method. These measures have been reasonably successful, but usually involve a great deal of extra expense. Another attempt to remove the curse of the hard ink outline is a special process whereby the pencil drawing is transferred directly onto the cells by photography, for even the pencil outline, uncompromising as it is, has more softness than an india-ink tracing of same.

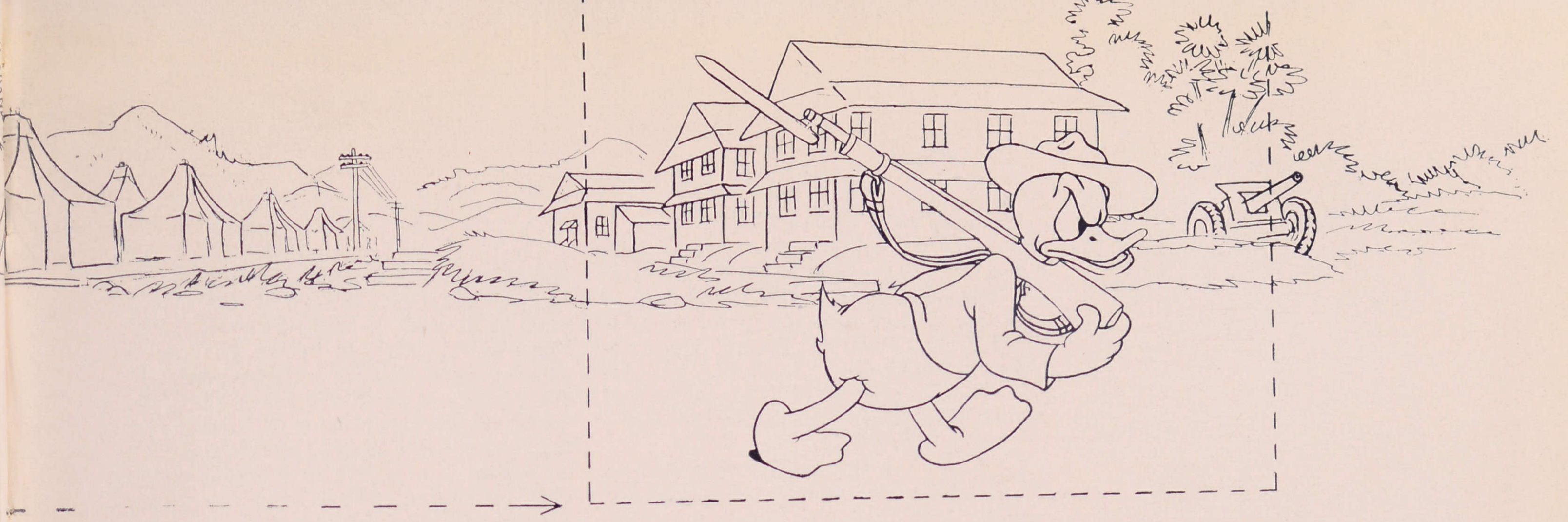
Illustrated are a series of cleaned-up drawings from the scene in "Bambi" mentioned in the previous installment. Comparing these with the roughs, it can be seen that they are exactly the same in respect to attitude, expression and size, but the cleanup has carried the drawing one stage further along, detailing the character as he will appear on the screen. Incidentally, in this particular scene, Bambi is standing in snow; consequently the cleanups were drawn without feet, which gave the proper illusion of the character standing in snow when the colored cells were superimposed over the background.

The first drawings that are cleaned up are the original extremes of the animator; so the key action poses become the key cleanups as well. This drawing chore is handled by the animator's assistant, for it is a very important phase in the procedure of animation. The assistant works closely with the animator at all times and is familiar with his way of working. Being an accomplished draftsman, it is the cleanup-man who puts the final screen-drawing into the character. Usually, the assistant is in line to animate some day, and gets a whack at animation in the form of miscellaneous bits that the animator himself doesn't deign to handle.

After the extremes are cleaned up, the supplementary poses, or inbetweens, are taken care of by an "inbetweener", who is the humblest in the long string of artists on the production line. But even the inbetweener must have a better-than-average facility with a pencil and posess a good sense of action for he, too, generally has his eye fixed on an animator's spot.

Every inbetween is a complete drawing, just as finished as the extremes, but it can be seen with a little analytical examining of the illustrations that these inbetweens don't represent any important phase in the course of the action, but simply carry one extreme to the next. The extremes are indicated with an 'x' over the drawing-number. In this case, the animator chose to use every other number in numbering his drawings for reasons best known to himself. But it doesn't make any difference how drawings are numbered, as long as they're in succession and the same number isn't used for two drawings in the scene.

An inbetween drawing is made in the following general fashion. Checking back to the illustrations—drawings 71 and 73 are extremes. Number 72 is an inbetween. The inbetweener first places 71 and 73 on the pegs of his drawing board in superposition, clicks on the fluorescent light under the glass in the board, puts a clean sheet of paper on top of the other drawings and numbers it 72. He then flips the two finished extremes back and forth to get an idea of the path of action. Unless otherwise indicated, the inbetween will be at a halfway position between each extreme. For



A "pan" background. Character animates in one spot, while background moves behind him. Dotted lines indicate camera field and path of action. © Walt Disney Productions.

example, it will be noted that the spots on Bambi's back are visible in drawing 73, whereas in 71 they are hidden by the position of his body. Hence, in 72, the inbetweener will draw the character so that the spots are just beginning to come into view to the extent of half the amount that's shown in 73.

The inbetweener must be careful to draw everything that's indicated in the cleaned up extremes. If he overlooks a wrinkle, a spot or a color indication, the lack of such will cause a momentary flicker on the screen. When a drawing reaches the stage of being traced onto celluloid, the inker will ink only such lines as are on the drawing. If something's missing, if only for a drawing or two, the inker will automatically leave it out. For all she knows, the cleanup-man wanted it that way.

The inbetweener has the rough inbetween to guide him in placing his finished drawing in the proper relationship to the extremes. These rough inbetweens are done for the first rough test of the action. They help the inbetweener especially when the extremes are far apart, and he is obliged to provide several consecutive drawings instead of just one, as in the case of drawings 63, 65, 67 and 69 which are the inbetweens of the extremes numbered 61 and 71.

Various tricks and time-savers are employed in the drawing of cleanups and inbetweens. There is the "held cell" —used when some portion of a character's body is to remain stationary for 16 frames or longer, while the rest of the body is in action. Instead of redrawing that motionless portion over and over again, it's drawn just once, and placed on a separate cell level. The active parts are animated on another level and superimposed over the held cell, in register. The only possible disadvantage to this method is the fact that the held part generally undergoes a slight change of color, or "color jump", when suddenly transferred to another cell level. Also, holding a held cell for too long a period is liable to present a "frozen" appearance to the stationary part.

Another drawing-saver is the "traceback". This is first cousin to the held cell, and is used when but a small portion of a character remains in the same size and position for a few frames. For example, if a character's feet are to remain in one spot for several drawings, while the rest of the character moves, the animator will animate his action as usual, but will fail to draw the feet each time, indicating for them to be traced from the drawing where they went into their held position. The cleanup-man and inbetweener will make their drawings complete except for the feet, calling for a traceback of the feet from the last drawing whereon they appeared.

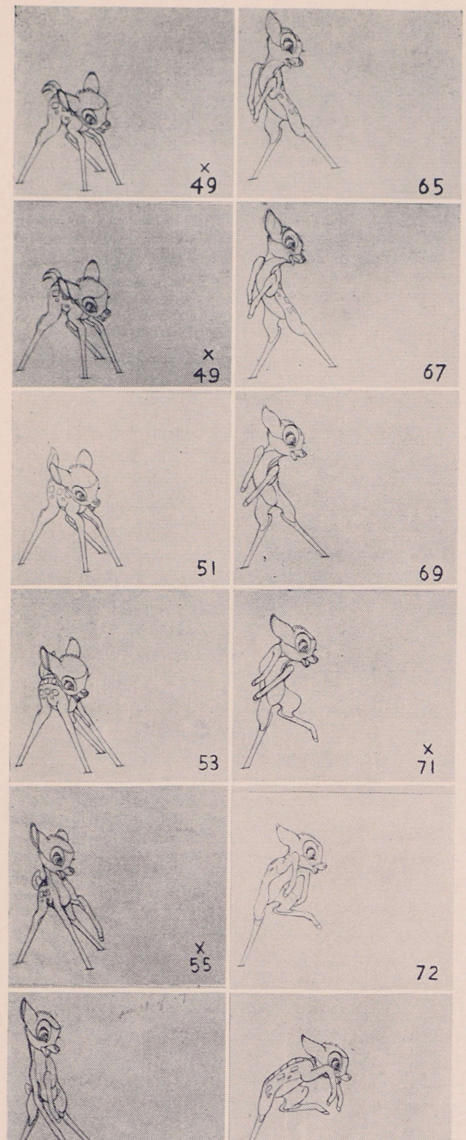
The traceback is also used to save unnecessary drawing in the case of a cycle of action such as a walk, where the same pattern occurs over and over again. Sometimes, in a cycle, the same drawings are shot repeatedly for the length of the action, but where some part of the character undergoes changes of position while other parts are in a cycle action, the traceback is employed. In a scene from a recent release, Donald Duck is marching along on a parade ground, watching some airplanes overhead. His feet and body go through a cycle of continuous action, but his head moves around, watching the planes. The animator drew a complete walk cycle to animate each foot completing a stride. Then, instead of re-animating these steps for each new stride, the animator called for the use of these original drawings again and again as long as the walking action continued, via tracebacks, in the right order. New animation was done for the head, which changed position constantly during the walk, and which was registered to the tracebacks. The use of held cells, tracebacks and other such shortcuts are encouraged, because every unnecessary drawing is a waste of money, time, and effort.

If there's a portion of the background which a character goes behind, or appears from in back of, he is "registered to the background" during the process of cleaning up the drawings. The exact edge of this part of the background is carefully indicated by the layout-man, and the cleanup-man uses this guide in drawing only that portion of the character which is supposed to be in sight. Similar guides are provided the inker and painter. If the part of the background is of such a nature as to require complicated registering, such as a wire fence, clump of bushes, etc., it can be handled as an overlay, and placed on a top cell level.

When the action of a character is of such extent as to call for him to move outside of the limits of a 5 or 6½ field setup, a panorama or "pan" move is indicated. A pan move gives the effect of the camera dollying along beside a character in action. The background is designed on a long paper to whatever amount of ground the character is supposed to cover. The cartoon camera is in more or less a fixed position at all times, and its movements are limited to the areas of the 5 or 6½ field. So, when the camera can't move, the background must. In the average pan move, the character animates in one spot on the setup, while the background is moved behind him in the opposite direction at a fraction of an inch per exposure, depending upon the speed of the action.

Pan backgrounds can be designed in a multitude of fashions, to present the effect of most any type of camera move. A vertical pan gives the effect of the camera following action upwards, while a diagonal pan follows a movement up the slope of a hill, or something similarly at an angle. Horizontal pans—most used—present ordinary walking or running actions on a level surface.

Using the multiplane camera set-up, backgrounds can be "broken down" to various levels, with each level being moved at a different speed, for third-dimensional effects. The actual lengths of pan backgrounds are arbitrary, determined in general by the timing allowed an action by the director, and specifically by the animation. All sorts of intricate effects can be obtained by combining various types of pan moves with changes in perspective within the pan, along with camera trucks, overlays, and variously moving background levels. Animation mechanics assume a



"Cleaned-up" drawings representing 1 foot, 12 frames of action, expanded from the six rough extremes illustrated last month. The clean-up versions of these extremes are indicated by an "x" over the drawing number; the other drawings are inbetweens. Drawings 49 to 71 were photographed "on twos" (two frames per drawing) as shown in duplication of No. 49, but the duplicates were eliminated in this reproduction.

more complicated aspect in the case of pan moves, and almost call for the use of higher mathematics when the going gets tough.

However, an explanation of how a simple horizontal pan operates is adequate for the purpose here, and just about covers all of the fundamentals of pan moves. The example in this case is lifted from a current Donald Duck release, "Donald Gets Drafted". The action of the scene has been mentioned earlier in a paragraph dealing with the subject of tracebacks.

Donald is marching along to a definite tempo, taking one complete step on every twelfth frame of film. He is moving from left to right, in a medium shot. He takes ten complete steps in the scene, covering an actual distance of 23 and 1/16 inches on the background. But before reaching a conclusion as to the pan length, the animator had to indulge in a little arithmetic. First off, the scene length allowed him was 7 feet and 12 frames, or a total of 124 frames. Donald is marching on "twelves", which gives him time for ten steps, with a few frames left over. For the size that Donald was animated, each step was 2¼ inches long. Ten times 2¼ equals 22 inches, or in footage equivalent, 120 frames. But as the scene is 124 frames long, this is added to the pan, covered by the animation of leading into and out of the first and last steps.

To figure out exactly what fraction of an inch to move the pan for each exposure is now just a little matter of division. However, since the pan is never moved for the first frame of the scene but starts its movement on the second, that leaves just 123 frames, or 123 separate pan moves. The simplest way is just to divide 2½ inches, the distance of one step, by 12 frames, the film time of the step. The result is 3/16ths of an inch pan move for each exposure. Multiply this by the total number of frames, 123, and the grand total becomes 369/16ths, or 23 and 1/16 inches for the length of the pan. Simple, isn't it? Or is it?

Anyway, this gives a pretty fair idea of what the animator has to go through when dealing with pan moves. This example is a comparatively simple one, since there is but one character moving at a constant rate. Complications arise when several characters move at varying rates of speed on different cell levels. However, such problems are but amplifications of the fundamental principles described.

The animation of Donald in his walk took place in one spot on the paper, with each foot, as it remained in contact with the ground, being drawn back just 3/16 of an inch on each consecutive drawing, to correspond with the distance the pan moved. So actually, Donald just "treadmilled" in one spot, while the background slid past behind him. Care was taken to see that the change in position of the foot contacting the ground in each successive drawing amounted to no more or no less than the pan move, or else the character would appear to be gaining or losing ground. This 3/16 movement, of course, is entirely arbitrary. A pan can move as little as 1/64 of an inch per exposure, in the case of an unusually slow action, or can zip past at 1½ inches for each move, for a fast action.

To give a more realistic feeling of third dimension, a pan background might be broken down into several levels, with each level moving at a different speed. For example, objects in the near foreground appear to be moving faster by the camera than those in the far distance, so the layout-man will design his layout so that the foreground plane can be moved independently of the rest of the background. Thusly, the foreground level might move at 3/16 of an inch per exposure while the far level moves at 1/16 or even 1/32.

The Multiplane camera as designed by The Disney studio affords opportunities to obtain remarkable results in third-dimensional effects and has opened up new possibilities in the freedom of camera moves. The various background levels are actually separated from each other by several inches, which gives a true illusion of depth to the scene. Action cell levels are spaced accordingly, and great freedom of movement is possible by the action animating from one background plane to another. So far, however, the use of the Multiplane camera has been governed by pictorial rather than action requirements, and has seen its best service in such pictures as "Fantasia", and the forthcoming "Bambi", where backgrounds and scenic effects play an important part in enhancing the dramatic action of the story.

The animation of dialog presents new problems quite different from the animating of straight action, and imposes new demands on the animator's ability to analyze not only action, but emotions, pantomime, and all other basic fundamentals of acting. In the earlier days of sound, a character didn't get much acting into his dialog. It was mainly a matter of opening and closing the mouth, trapdoor fashion. Dialog was generally spoken to a definite rhythm, to fit the musical pattern to which most of the first sound cartoons were animated.

Today, dialog doesn't play a supplementary role, but is an important part of expressing a cartoon character's personality. Great care is used in casting voices for a character. And it works both ways; the animator can oftentimes find plenty of suggestions in the delivery of the dialog to help him in working out the personality of his character. The fine degree to which dialog animation is developed is self-evident in such characters as the Seven Dwarfs, Jiminy Cricket, Timothy Q. Mouse, et al.

The animator's problems in handling dialog are not so much in timing as in drawing and performance. The timing is taken care of by the performer on the sound stage when the dialog is recorded. Dialog is recorded to fit the general timing that the director has allowed the speech in the picture, but allowances are made for the freedom of delivery and natural timing of the actor when speaking the lines. Proper dialog and correspondingly suitable voices are becoming increasingly important factors in cartoon production, as the continuous development in animation technique makes possible the delineation of finer and subtler characterizations on the screen.

After the dialog is recorded, the animator receives a transcript of it in the form of a "dialog reading". This is a breakdown of the words and syllables of the speech into terms of film footage. The operation of "reading film" takes place in the cutting department. A film-cutter, who specializes in this sort of work, hooks up the length of film containing the speech onto a Moviola, puts on a pair of earphones, and starts running the sound track back and forth, over and over and at various speeds, to familiarize himself with the dialog. He keeps an eye on the modulations in the track, and with a grease-pencil, spots the positions of the words and phrases on the film itself. He then breaks each word down to its syllables and individual letters, indicating the exact length, in terms of frames, of each of these components.

This reading is transferred onto an exposure sheet, with each word, syllable and letter shown in its proper length corresponding to its placement on the film. Variations in volume are even indicated, so that the animator can design the accents of his action accordingly. This same procedure is applied in the case of fitting action to an eccentric sound-effects pattern, only in a more limited degree, as only the main accents of the sound are "read".

An example of a dialog reading is illustrated, along with the actual animation drawings designed to fit the words. The careful manner in which the animator drew the mouth action of the character can be seen by comparing each drawing with its corresponding frame in the dialog reading. The dialog, "The water's stiff!" is used by Bambi's rabbit pal, Thumper, in referring to the frozen surface of a pond. The accuracy with which animators fit their characters to dialog has been shown by the fact that upon many occasions persons who are totally deaf have been able to understand the dialog of cartoon personalities simply by watching the mouth action.

Still another type of animation that has its own peculiar problems is the animation of "effects"—all the non-living, atmospheric material that might have to move in the scene, such as water, dust, leaves, rain, snow, clouds, fire, shadows, and so on. The importance of this type of animation is shown by the extent of its use in "Fantasia", wherein the pictorial and atmospheric components of the scenes often were totally instrumental in telling the story. Effects animators are specialists in that line, and spend as much time in conscientiously analyzing such things as the movements of ripples in water, for example, as a character animator would in studying the movements of a swimming animal creating those ripples. For the sake of

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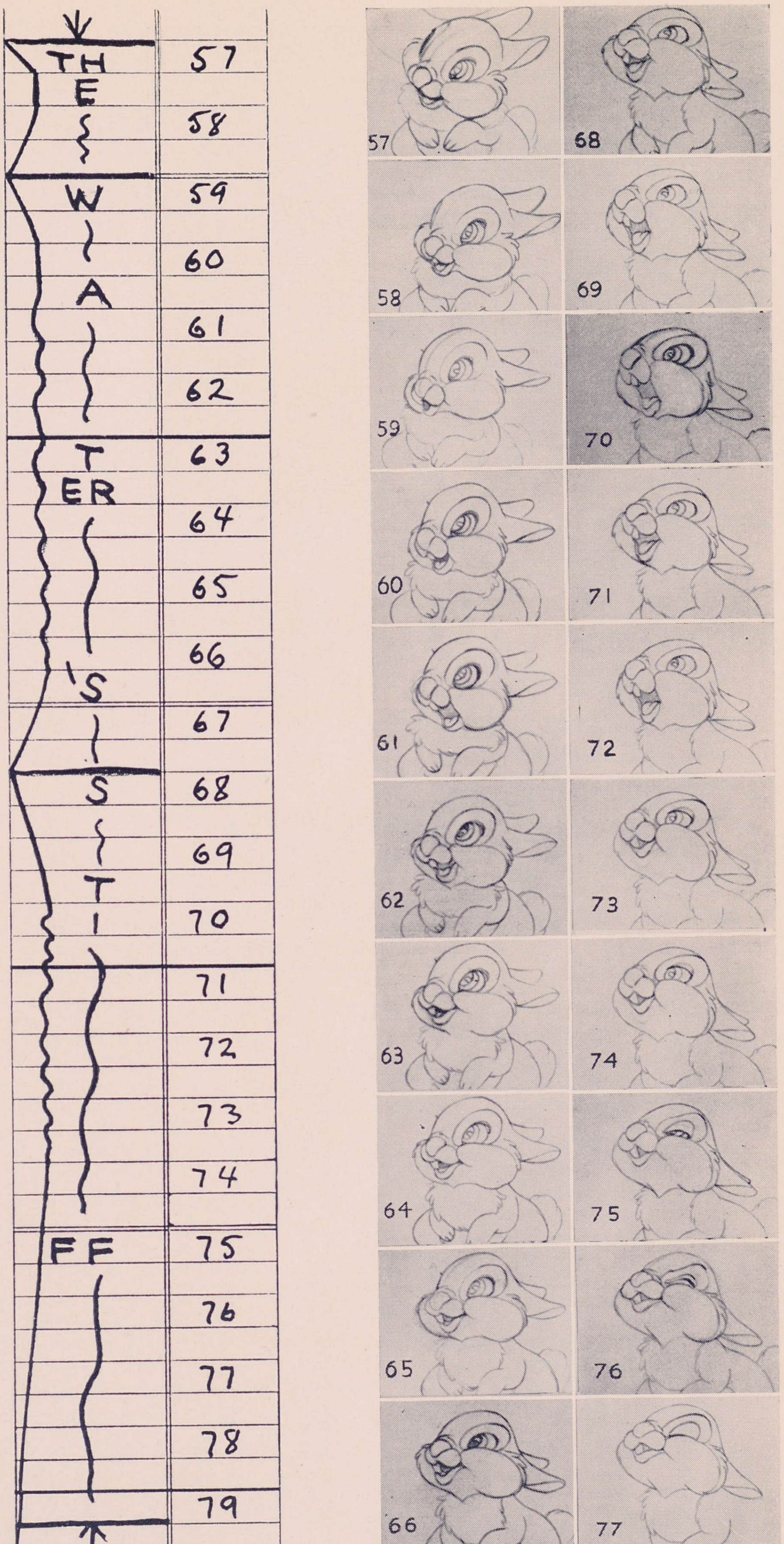
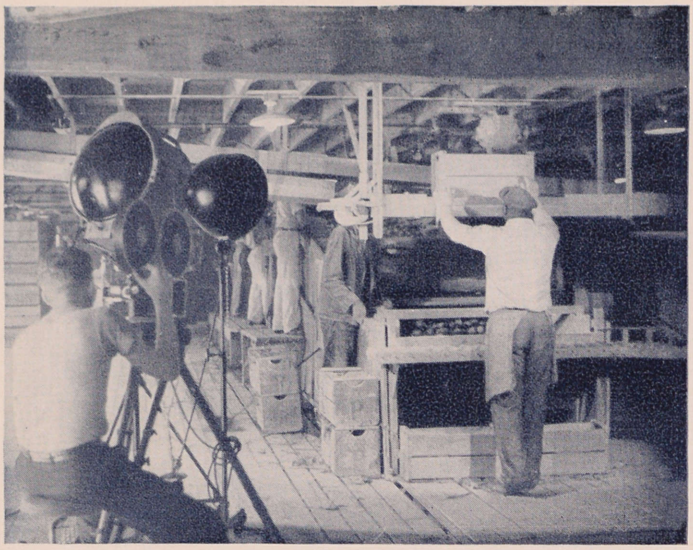


Above: A "dialog reading" in which recorded dialog is broken down into terms of drawings and film length. Wavy line indicates variations in volume. Right: Actual animation used to portray this dialog. The words "The water's stiff!" are spoken by Thumper, Bambi's rabbit pal, when referring to ice on a pond in a scene from Walt Disney's feature. All Illustrations © Walt Disney Productions.



Release-Print Problems In Professional 16mm Production

By JAMES A. LARSEN, JR.

IT IS important to consider the conditions under which a film will be shot when choosing between reversal and negative. If lighting conditions are very difficult, if there is no possibility of retakes, and if the cinematographer is working under the pressure of getting out of the way as soon as possible, the negative processes should be favored. Under extremely unfavorable conditions it is possible to vary the development treatment of negative film to partially compensate for unfavorable conditions. There is more control possible in making prints from negatives than in making prints from reversals. In the reversal process, no one sees the film until it has been reversed to a positive and further manipulation of the original is impossible.

Since the entire investment of a production ultimately lies in the picture and sound negatives or originals (if they are reversals or Kodachromes), the protection of this original is of the utmost importance. A properly-handled original negative is probably good for between 100 and 200 prints without showing objectionable signs of wear in the prints.

If the producer knows that he will never need a large number of prints, then one original negative is sufficient. But suppose that over a period of years, 500 or 1000 prints of an original might be needed. With the present 16mm. printers, it would not be possible to make over 200 copies from one negative. The negative would be worn out—that is abraded, scratched, dirty, perforations, torn, etc.—probably before 200 prints had been made.

However, if the original is made on reversal film, several duplicate negatives can be made from the one reversal original. When 100 prints have been made from one first duplicate negative, it can be discarded and a second duplicate negative can be used. This process can be repeated as many times as necessary to supply the required number of release-prints.

Thus there is no limit on the number of copies possible from a reversal original. Also the existence of several duplicate negatives is additional insurance for the investment in the original. The duplicate negatives can and should be stored in different places, so that if a fire or other catastrophe destroys one dupe negative or even the reversal original, there will still be others to print from.

In 35mm. it has been common practice to make a master-positive or 'lavender' print from which several duplicate negatives can be made if desired. This 35mm. master-positive is kept as insurance against damage to the original negative although release-prints in 35mm. are usually made from the original negative because of the better quality obtainable.

Because of the great volume of prints turned out in 35mm. it has been financially feasible to design production printers which will print 300 or more prints from an original negative without damage to the original. There is no 16mm. production printer which can do this at present. Also, it has not been possible to make a really satisfactory "master positive" in 16mm. from which duplicate negatives could be made. Although it can be done, the graininess is increased greatly and contrast is increased to an unpleasant degree.

The possibility of making a duplicate negative by the reversal process is one which could hold a lot of promise if film manufacturers would bring out a special emulsion for this purpose. Existing reversal emulsions are not suitable. They increase graininess to a degree which makes contact prints compare unfavorably with prints from original negatives or prints from duplicate negatives made from reversal originals. Making of duplicate negatives by a reversal process, beside giving the desired insurance of more than one negative, would make possible prints with 16mm. standard emulsion-position from films originally photographed on negative film. With the above consideration in mind, it is obvious that the reversal system is better than the negative system if a large number of prints are to be made and if there is a large investment in the original. It must also be pointed out that if only a small number of prints are required and if the likelihood of damage to the original is small, then the negative-positive system is more direct and hence more economical.

In the handling of 35mm. original negatives, ideal conditions for cleanliness prevail. Most negative cutting is done in completely air-conditioned rooms for which the air is filtered and humidified to the proper degree. All workers wear special lintless clothing and handle film only with special lintless gloves. Every conceivable precaution is taken to prevent dust, dirt, lint and other foreign particles from reaching the film.

If all 16mm. original negatives were handled under such ideal conditions it would be possible to get prints from them which would be as clean as 35mm. release prints. However, such ideal conditions are not usually available to the 16mm. producer, and he must frequently handle originals in an ordinary, non air-conditioned room subject to dust, soot, smoke, lint, etc. Despite everything he can do in careful handling, some dust may get on the film and cause specks or spots on the screen.

If the film being handled under these conditions is a negative, dust causes white specks or spots which are quite noticeable on the screen. However, if the original is a reversal or Kodachrome, the dust on the original prints as black specks or spots which are much less noticeable on the screen than white specks.

It is possible by proper handling and cleaning with black velvet to avoid dust on original negatives to the extent that satisfactory prints can be made from 16mm. negatives. This matter of dust

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Aces of the Camera

XIX:

Stanley Cortez, A.S.C.

By WALTER BLANCHARD

STANLEY CORTEZ, A.S.C., is a young man with ideas. Very positive ones. You may not necesarily agree with them—indeed, he doesn't expect constant agreement with his concepts—but you can hardly help admiring him for having them, and for sticking to them so steadfastly. Having known Stan for many years, I'm quite convinced that if the entire industry lined up and told him his concept of a scene was wrong, he wouldn't admit it until he had proven the question,one way or the other, on the screen! Even then, you might not agree with his concept, but you'd have to admit that whe he put on the screen was a faithful reflection of the way he saw that particular scene.

This positive attitude has been both an asset and a liability to the Cortez career. An asset because even though he is decidedly one of the younger generation of today's dirctors of photography, he brings things to the screen with a thoroughly distinctive flavor which is rapidly gaining him recognition as one of the industry's rising young men. A liability because such positivity can hardly help rubbing people the wrong way at times.

He's had another liability to contend with, too, in the fact that he is the younger brother of a successful actor-director, Ricardo Cortez. And when a star's younger brother goes to work as an assistant cameraman, nobody is likely to take him seriously—especially if, like Stanley, he admits to having artistic ambitions.

But Stanley Cortez fooled them. He not only turned out to be a good assistant cameraman, but he made his way up the ladder to the position of operative cameraman. There, he worked with many of the industry's all-time camera aces—Arthur Miller ASC., was the first, and Lee Garmes, A.S.C., Hal Mohr, A.S.C., Charles Rosher, A.S.C., Ray June, A.S.C., Ted Tetzlaff, A.S.C., and Lucien Andriot, A.S.C., were others. Working with them, he took what he likes to describe as a five-year college course in cinematography, learning through practical experience, with the greatest masters of the profession as his teachers. And he built on this foundation with constant study of what other people and other producing centers were putting on the screen, including the highly analytical writings of many Russian, German and French cinematographers and directors whose treatises on the artistic aspects of the cinema seldom make their way into English.

And so it was that some six years ago he advanced to the position of director of photography, becoming a member of the A.S.C. in 1936. And he has steadily battled his way up, first going through the professional "finishing-school" of photographing ten-day "quickies," then getting his chance on program features which might have all of two or even three weeks of shooting lavished on them, and finally, during the past year or so, to "A" pictures. Orson Welles picked him to direct the photography of "The Magnificent Ambersons"; Walter Wanger chose him to photograph the recent—and very difficult—"Eagle Squadron."

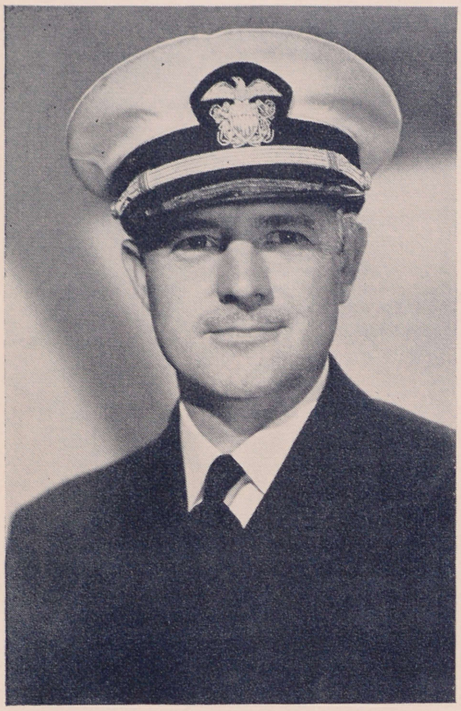
His work today combines the effects of his thorough grounding in practical technique, his study of the pictorial and often intricately psychological aspects of cinematography as an art-form, and an instinctive feeling for the medium with which he works. His mental approach to it is interesting. "When people talk about cinematography as a science," he says, "they are only telling half the story. Dramatic cinematography as we see it in the studios is also an art—and a very largely unexplored psychological medium, as well.

"Let me explain: if we simply set up a camera to make a mechanically accurate record of an action, we are justified in approaching cinematography from a strictly scientific basis. But in a modern production, we are doing two other, and very different, things. We are trying to create a series of visually attractive compositions. And we are trying to produce an emotional or psychological response which will give the audience the 'feel' of the story we are portraying.

"In this work, there is a very definite danger of becoming so engrossed in the technicalities involved that we miss fire on the pictorial and emotional factors which are the heart of our scene. We've all of us seen scenes (not always in short-schedule pictures, either!) in which it was obvious that the man in charge of the photography was so greatly concerned about turning out a negative which would meet the laboratory's technical standards—'print right

(Continued on Page 329)

A.S.C. on Parade



Among the more notable passer-throughers of the month was **Arthur Arling, A.S.C.,** just promoted to a full Senior Lieutenancy in the Navy's Photo Presentation Division. It's not official, but we gather **Art** and his camera were "among those present" at the Coral Sea battle, and have brought the Navy back some sensational pictures.

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A cheery note from **Philip M. Chancellor, A.S.C.,—Lieutenant Chancellor,** to the Navy delegation—tells us he's been assigned as Photographic Officer aboard the *U.S.S. Hornet.* So far as we can learn, he's the first officer to be assigned for exclusively photographic duties on one of Uncle Sam's aircraft carriers.

•

Jack McKenzie, A.S.C., beaming with paternal pride on reading trade-paper reports his son, Photographer (2c) John Patrick McKenzie distinguished himself at the Battle of Midway Island, serving as the whole camera crew for Commander John Ford who, so the report continues, has taken back to Washington some of the most sensational battle movies ever made. They'll probably be released as a special Navy short.

•

Charles W. Herbert, A.S.C., is now **Lieutenant Herbert, U.S.A.,** of the Signal Corps. We understand he's one of the first cinematographers assigned to the task of filming Major Frank Capra's All-Army Newsreel.

•

Karl Freund, A.S.C., giving MGM Operative Cameraman Ray Ramsey an intensive course in using the Norwood meter before Ramsey headed east to become an Air Corps Lieutenant.

Greetings to another new member of the A.S.C.—**Linwood G. Dunn, A.S.C.,** right-hand man to **Vern Walker, A.S.C.,** at RKO, and one of the industry's outstanding masters of the Optical Printer.

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And did you know that **Joe Walker, A.S.C.,** recently surprised himself with the results of some tests he made? Seems one day **Joe** couldn't get any models for some technical tests he had to make, and his daughter obligingly stood up and smiled at the camera. And when the Columbia execs saw the results on the screen, their reaction was, "We knew you could get that effect, **Joe**—but who's the girl?" And now there are *two* picture careers in the Walker family, with daughter working almost as steadily in front of the cameras as Pappy does behind them!

•

"Tony" Gaudio, A.S.C., in the Queen of the Angels Hospital, recovering from an appendectomy. He collapsed on the set with what was at first thought to be intestinal flu, but later turned out to be appendicitis. Pending his recovery **James C. Van Trees, A.S.C.,** is pinch-hitting for **Tony** on "You Can't Escape Forever," meantime joining the rest of us in wishing **Tony** a speedy recovery.

•

And **Jack Greenhalgh, A.S.C.,** took time out for a lesser carving, shedding his tonsils.

•

Ray Rennahan, A.S.C., "the old Maestro of Technicolor," gets the plum of solo-piloting Paramount's big special, "For Whom the Bells Toll." He's off for location at Sonora, Calif., where most of the picture will be filmed.

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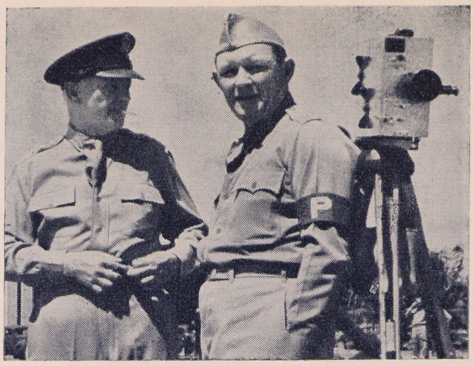
Congratulations to **Elwood ("Woody") Bredell, A.S.C.,** on two counts. Not only has he garnered one of Universal's top camera assignments, directing the photography of the new Deanna Durbin picture, but, so we see by the trade-papers, he's shortly due to marry Miss Violet Kane. With all those nice things happening to you in quick succession, **Woody,** we hope you're not nervous. Or not *too* nervous, anyway!

•

Thanks to **Harry Perry, A.S.C.,** for a nice postcard from New York, where he is bagging special scenes for RKO's "The Navy Comes Through," which, by the way, will have **Nick Musuraca, A.S.C.,** in charge of the production cameras. Of the "great white way," **Harry,** who reached there just as the dim-outs started, writes, "You should see this town now at night! Sure is dark and gloomy! It's lucky we've plenty of 'bright lights' shots of Broadway in the studio libraries, for we sure can't get any more till after the war!"



Last month **Len. H. Roos, A.S.C., F.R.P.S.,** wrote us from Hawaii that he was sending a picture of himself at work as Pathe News' accredited war-correspondent. Here it is. The gentleman on the left beaming at **Len** (or maybe just admiring **Len's** snazzy English Newman-Sinclair Autokinecamera) is Lieutenant General Delos C. Emmons, Commanding General of the Hawaiian Department of the Army, whose planes really gave him something to beam about the way they pasted the Japs off Midway.

•

Karl Struss, A.S.C., now his chore of Technicoloring "Happy Go Lucky" for Paramount is finished, drops in to collect some of the stamps and censor-marked envelopes we get in from foreign readers and exchanges. He's a philatelist—stamp-fiend, to you.

•

Wonder why that ardent photographer, **Bert Glennon, A.S.C.,** let his copies of Britain's "Photographic Journal" pile up waist-high in the A.S.C. office without bothering to come 'round for them—?

•

Theodor Sparkuhl, A.S.C., says the fellows who are skippering tanks around in the Libyan desert this time of year have his sincerest respect—and sympathy. He remembers only too well what a furnace Libya was when he made a picture there in June a number of years ago . . . and inside a tank—whew! says **Ted,** who knows.

•

L. Wm. O'Connell, A.S.C., goes out to Universal to do the Gloria Jean starrer, "Get Hep to Love." Same for **Lester White, A.S.C.,** who moves across town from MGM to The U for "Sherlock Holmes Strikes Back."

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George Robinson, A.S.C., handles the effect-lightings for Universal's chiller, "The Mummy's Tomb."

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And speaking of chillers (pleasant thought as summer comes on, isn't it?) did you see the nice break **Joe Valentine, A.S.C.,** got in the recent S.E.P. article on Universal's horrorepics?

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The Brothers **Jennings—Gordon** and **Dev,** both **A.S.C.**—manoeuvering the Jap fleet in miniature for a scene for "Wake Island," and expressing high disgust as the chemical smoke used to produce an oceanic fog-bank refuses to take direction. They say smoke's the most temperamental "actor" in pictures!

THROUGH the EDITOR'S FINDER

MODERN war, as one distinguished writer on chemistry once phrased it, consists largely of the explosive liberation of nitrates on a grand scale. And while, chemically speaking, cellulose nitrate in the form of celluloid film-base and cellulose nitrate in the form of guncotton are several chemical steps apart, they both require the same raw materials —cotton and nitric acid.

It has been stated that each 100,000 feet of 35mm. nitrate film is equal to approximately 500 pounds of guncotton. If this is so, the 2,000,000,000 feet of negative and positive film the industry consumes each year is roughly equivalent to 10,000,000 pounds of guncotton, or enough to fill nearly 30,000 500-lb. aerial bombs. This is roughly 50% more than the R.A.F. recently deposited on Cologne in a single raid.

When we consider the world-wide nature of the present war, and its staggering demand for explosives, this total, huge as it may seem, becomes but a virtual drop in the bucket. But we all want to see such raids continue, and grow in frequency and intensity. And whatever any of us can do to assure that there shall be an increasing store of explosives for our airmen to rain on the enemy, we will gladly do.

That is why all of us in the industry are being asked to aid in an "all-out" campaign to conserve film. So far as we have been able to learn, this campaign is wholly voluntary; the film manufacturers give no evidence of being troubled over shortages of materials, and we have been given to understand that if the industry lives up to its past reputation for self-regulation, Governmental rationing of film materials is not likely.

Having thus been put on our honor to reduce our consumption of film to an efficient minimum (we're the only industry, we believe, so honored), we should all of us get whole-heartedly behind any logical move to justify that compliment. We all know that there are plenty of ways in which needless consumption of film can be curtailed. We know there are plenty of slipshod practices, growing largely out of the tradition that "film is the cheapest thing on the lot," which, if corrected, would drastically reduce the industry's consumption of film.

The activities of the several committees and groups studying the problem are not, as yet, nearly complete. We can be sure, from the type of men who make up these groups, that their findings will be constructive and worthwhile.

But as yet, those recommendations have not been issued. And we cannot help urging the industry and its people to regard the situation calmly and sensibly until those recommendations appear. Already, there have been some suggestions made which smack altogether too much of panic, or of taking unfair advantage of the industry's natural patriotic impulses.

For example, there has been some talk of eliminating all screen credits save those of stars and perhaps some top featured players. If it proves really necessary, and all the other, greater wastages of film have been taken care of, nobody should object. But until this condition applies, it seems to us that the elimination of screen credits is rather like putting a thumb over a half-inch leak in the dyke while gallons roar through a ten-foot hole behind you.

It has been estimated that eliminating all but stellar screen credits would save less than 1% of the industry's annual total of film footage—or enough in a year to load less than 30 bombs. Balanced against this tiny saving are the fact that there are many people who pay their money at the box-office because they are attracted by knowing the film is the work of some featured player, director or cinematographer whose work they admire and follow, and the equally important fact that these credits also have a definite moral effect on the people who make the pictures.

Motion pictures are recognized, officially, as an essential to both civilian and military morale, and as a vital instrument of propaganda for conveying something of the spirit and ideals of our country to the peoples of other nations. If motion pictures are to serve these purposes, the morale of the people who make them must also be kept up.

And that morale will certainly not remain high if our picture-makers see their hard-earned screen-credit being snatched away from them under guise of saving film, while they see many other, and greater sources of film waste in both production and distribution still unchecked!

•

RECENT trade-paper reports indicate that the motion picture sections of our Armed Services are beginning to discover that in many ways direct 16mm. is more adaptable to their needs than the professionally-accepted 35mm. Some of these news-items hint that the military men who are making this discovery rather feel Hollywood has sold them a bill of goods in its advocacy of 35mm. for their work.

It's too early in the game to chortle "I told you so," even though this writer is one of that Hollywood minority who have long championed the professional possibilities of 16mm., and urged its advantages for military movie-making. But we'll venture a prediction: before this war is over we'll see a majority of our military filming done in direct-16mm., largely because 16mm. equipment and materials are more readily available and more easily used, because more men of military age can do an acceptable job in 16mm. than in 35mm., and because for instructional and combat camerawork, 16mm. can do anything 35mm. will—and often do it better.

And we'll venture another prediction: as far as motion pictures are concerned, one of the most important technical developments that will grow out of this war will be the coming-of-age of direct-16mm. In fact, we'll be rather surprised if even the studios—so long wedded to the infallibility of 35mm.—don't discover 16mm., too!

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AN interesting fact brought to light in our recent Defense Filming survey is the regard our readers have for their magazine. We feel complimented by the number who report they dislike to cut the coupon from their copies, as they file THE AMERICAN CINEMATOGRAPHER as an enduring reference-guide. We also feel flattered (though the Circulation Department doesn't!) at the reports we get from many readers that their copy of the magazine passes through many hands in a club, studio or producing organization before it reaches them. When we find that in so many cases a single copy or subscription means not one reader, but several, circulation figures take on an entirely new meaning. Thanks!

•

EVERY so often somebody remarks to us how lucky they feel the Editor of a magazine like this must be "to see all those previews." Our answer (if we know the speaker well enough to be frank) is usually "well yes—and no."

Personally, we like motion pictures, whether they're professional, commercial or amateur. We like to sit down in a projection-room and watch them unfold, while we study them and try to put our finger on their good and bad points.

On the other hand, though, we try to be honest in what we say about the pictures we see. And that isn't always easy, when you're personally acquainted with the men involved. It's not so hard to say frankly that so-and-so has done a fine job, even if he happens to be an individual we don't get along with so well, because there's the evidence right before us on the screen. But when it's the other way around, and someone who's a particular personal friend turns out a disappointing picture—brother, then's when you wish you didn't have to see the picture or say anything about it!

Luckily, though, there are two factors that tend to make the job easier. First is the remarkably fine way most cinematographers accept what we say about their work, even when we pan it. The other is the way the readers, professional and amateur alike, tell us our comments on pictures guide them in their movie-going. We hope we—and our reviews—will continue to qualify on both counts.

PHOTOGRAPHY OF THE MONTH

EAGLE SQUADRON

Walter Wanger Production; Universal release.

Director of Photography: **Stanley Cortez, A.S.C.**

Special Photographic Effects by **John P. Fulton, A.S.C.**

Quite apart from having an incredible amount of action crammed into its 109 minutes of running-time, "Eagle Squadron" is one of the most distinguished photographic jobs of the season. With it, one can say that director of photography Stanley Cortez, A.S.C., has definitely arrived as a top-rank cinematographer.

Throughout, Cortez manages a really remarkable blending of realistic and dramatic effects. From start to finish, there are constant cuts to atmospheric scenes actually made in England by uncredited, but none the less extremely capable British cinematographers, both on the ground and in the air. Cortez has handled the California-made scenes intercut with these so expertly that it is almost impossible to tell where one begins and the other leaves off. The picture conveys an unusual impression of the real-life documentary.

At the same time, in the many sequences of intimate action in which dramatic camerawork, angles and lighting are possible, Cortez makes the most of them, yet very seldom overplays his hand enough to disturb the essentially realistic quality the film demands. We personally thought the picture would have been better with fewer low-camera wide-angle shots—but that is a matter of personal opinion with which others might not agree.

In many of the scenes—interiors especially—Cortez makes forceful employment of the so-called "pan-focus" extreme-depth technique. What is more, he does about the best job of it we've yet seen—"Citizen Kane" included. He maintains an excellent balance of lighting and tonal quality (so often missed when this technique is tried), and his three-dimensional compositions are very good indeed: they are natural, dramatically telling, yet never seem to include so many things in so many planes that they confuse the eye.

His handling of diffusion is another commendable highlight. So often, nowdays, cinematographers seem to ignore the maintenance of a proper continuity of diffusion, especially where "pan-focus" long-shots or rugged closer angles of men have to be intercut with close shots of feminine players who need the glamorizing aid of diffusion. But Cortez' treatment of this aspect of the picture is exemplary.

His effect-lightings are excellent, not only in the effect-lighted interiors, but in several really difficult night exteriors representing blackouts and Commando raids. In the Commando sequence, it must be admitted, there were several cuts which seemed to have been either over-lit or over-printed, but this may have been necessary for dramatic effect.

John Fulton's special-effects work is, as usual, outstanding. Somehow, we're inclined to sense his Transport Pilot's hand behind the treatment of the scenes of aerial battle. He manages to get away from the conventional "Hell's Angels" dogfight treatment, and brings the air battles to the screen in a manner much more authentic for today's 400-mile-an-hour air warfare.

In this connection, an interesting sidelight was brought out by a young R.A.F. Cadet Pilot who was our guest at the preview. Said he, "I served over France and Germany as an aerial gunner on many raids—and never in all of them did I see as many Jerry planes in the air at one time as I did in this picture!"

TAKE A LETTER, DARLING

Paramount Production.

Director of Photography: **John Mescall, A.S.C.**

Transparency Process Photography by **Farciot Edouart, A.S.C.**

"Take A Letter, Darling" is a real cinematographer's job of cinematography—Johnny Mescall at his brilliant best. For good measure, it offers swell entertainment: clever performances, deft direction, and dialogue that makes you wish you'd written it yourself.

Mescall's camerawork in this one should certainly be on anybody's "must see" list. Perfectly keyed to the story's mood of sparkling, polished comedy, Mescall's lightings give a feeling of precision that's hard to describe. You feel as if every lamp were so precisely in its right place that moving one even a hair's breadth, or changing the intensity or diffusion by the slightest touch would be cinematic sacrilege. His compositions are a joy to the eye—pictorially and dramatically effective to an unusual degree.

His treatment of the players matches the rest of his performance; if Rosalind Russell has ever appeared to better advantage, we haven't been privileged to see it.

Another technical highlight of the production is the Transparency process-work by Farciot Edouart, A.S.C., for which, somehow, he neglected to take screen credit. Some of it—as for example the sequence at the kennel—is among the spectacularly best we've ever seen.

THEY ALL KISSED THE BRIDE

Columbia Production.

Director of Photography: **Joseph Walker, A.S.C.**

This diverting comedy is, photographically speaking, decidedly an up-and-down job for Joe Walker. On the one hand, he makes Joan Crawford appear to better advantage than we've ever before seen her, and on the other, while he has some of his typically deft lightings and compositions in the picture, he also has several sequences—like the much-publicized "jitterbug sequence"—which are very decidedly below his usual form. But see the picture anyhow, for it's fine, light entertainment.

TORTILLA FLAT

Metro-Goldwyn-Mayer Picture.

Director of Photography: **Karl Freund, A.S.C.**

Here's another picture well worth seeing, both photographically and as entertainment. Spencer Tracy's performance of the shiftless paisano alone is worth the price of admission—even to a deluxe house—and Karl Freund's camera-treatment is every bit as outstanding.

Photographically, it's Freund at his best, but in an entirely different mood from "The Chocolate Soldier." He maintains a really remarkable combination of pictorial effectiveness and unstudied realism. This is all the more remarkable when it is considered that the greater part of the picture—perhaps all of it— was filmed indoors, on the stage. The innumerable process-projection sequences—all too unfortunately uncredited—rate as probably the best we've seen from MGM in may a long moon. The print, by the way, is excellent, one of the very few in which we felt John Nickolaus' pet sepia-toning definitely enhanced the appeal of the picture. Frankly, we'd hate to see a cold black-and-white print of "Tortilla Flat"—though we'd like to see the picture again.

THIS GUN FOR HIRE

Paramount Production.

Director of Photography: **John F. Seitz, A.S.C.**

Special Photographic Effects by **Gordon Jennings, A.S.C., Farciot Edouart, A.S.C.**, and **William Pereira.**

It's been a very long time since any picture has given John Seitz, A.S.C., an opportunity to exhibit his pictorial and technical skill as this one does, and in it, from start to finish, he displays the touch of a master of camera and lighting. The greater part of the action calls for strong, melodramatic lightings. He delivers them with full dramatic and pictorial value, yet never losing sight of tonal balance and quality.

His treatment of the players is characteristically excellent; he presents Veronica Lake perhaps better than we've ever seen her shown before, and to our mind, his treatment of Alan Ladd, the film's much-publicized acting discovery, does at least as much as that young man's admittedly capable performance to make the role memorable.

The triply-credited special-effects work is excellent—so excellent, indeed, that the greater part of it is likely to slip by unnoticed. But don't let the picture slip past you. It's one you ought to see.

WINGS FOR THE EAGLE

Warner Bros.' Picture.

Director of Photography: **"Tony" Gaudio, A.S.C.**

Special Effects by **Byron Haskin, A.S.C.,** and **Hans Koenekamp, A.S.C.**

"Wings For the Eagle" is one of those photographic jobs which is difficult without being obviously spectacular. The accent is on naturalness, amid generally commonplace surroundings. Tony Gaudio's achievement is one of those you're not likely to notice unless you're looking for it consciously: he keeps every scene perfectly in key with its atmosphere and dramatic mood, presents his players to remarkably good advantage, and for the rest, seems to step aside in favor of realism.

Much of the action takes place in the Lockheed aircraft factory; and through the combined skills of Gaudio and process-experts Haskin and Koenekamp, this is done with unusually convincing effect. You are seldom conscious that what you are seeing is process-work, even though you know it must be. But the background of the activities of this, one of America's greatest airplane plants, brings home something of the magnitude of our effort to arm the democracies in the air. The picture is worth seeing for this alone, even if you don't care for the somewhat routine story.

HENRY AND DIZZY

Paramount Production.

Director of Photography: **Daniel Fapp, A.S.C.**

"Henry and Dizzy" is an obvious program picture, and doesn't give much opportunity to anyone connected with it. Cinematographer Fapp's contribution was obviously handicapped by a short schedule and the need for maintaining what someone—producer or director—considered proper "comedy camerawork." In addition, we understand there was a last-minute switch in negative materials which placed him at a further disadvantage, and made many of his lightings seem badly balanced. We've an idea Dan can do a great deal better than he was allowed to do in this.

On the other hand, "Henry and Dizzy" has technical interest because of several sequences of photographic trickery for comedy effect. There are more tried-and-true slapstick visual gags in this than in anything we've seen since Fred Jackman,, A.S.C., and Mack Sennett parted company years ago. In addition, there's an interesting "chase" sequence, wherein process-projection adds markedly to the comedy-thrill effects, and the nightmare sequence is excellent—and probably the only really imaginative bit in the production.

THE GAY SISTERS

Warner Bros.' Production.

Director of Photography: **Sol Polito, A.S.C.**

This isn't one of Sol Polito's best efforts, but he turns in his usual smooth performance. It's one of those pictures in which the camerawork is so perfectly keyed to the mood of the action that you're not likely to be conscious of it.

But if you take the time to look for it, you'll see that Polito has given "The Gay Sisters" an unusually effective photographic mounting. His lightings and compositions are, as always, excellent, and he has resisted the temptation to over-play low-key effect-lightings, as could easily have been done in this story. His treatment of the players, especially Barbara Stanwyck, is particularly good. We felt Miss Stanwyck appeared to better advantage than in many recent vehicles, and his character-lightings on some of the other players add perceptibly to their performances.

NAZI AGENT

Metro-Goldwyn-Mayer Production.

Director of Photography: **Harry Stradling, A.S.C.**

Harry Stradling does a very excellent job on this one, particularly so because of the rather wide range of moods his camerawork must cover, ranging from strong effect-lightings to comparatively high-key effects in the luxurious interiors of the Nazi agent's apartment and office. He deals very well with his players, too.

Conrad's Veidt's dual role is managed by some unusually excellent split-screen camerawork, which in itself is well worth seeing. However, next time we see make-up artist Jack Dawn, we'll have to ask him how he justifies the fact that Veidt, as the peaceful professor, has a distinctly greying beard and hair, yet when he shaves and impersonates his Nazi twin brother, his hair immediately becomes crisply darker, and he sheds many more years than would be explained by simply removing a beard and changing into the diplomat's dapper clothing!

RINGS ON HER FINGERS

Twentieth Century-Fox Production.

Director of Photography: **George S. Barnes, A.S.C.**

This picture seems to be something of a routine potboiler for two of our favorite picturemakers — director of photography George Barnes, A.S.C., and director Rouben Mamoulian. Neither one has much chance to show his really original style in this filmization of story—formula 14-b. Of course, neither does badly, but the result is still pretty routine. Barnes handles the photographic presentation with his usual skill, but there are few demands made on his artistry. He does, however, give Gene Tierney some of the best photographic treatment she's ever enjoyed in monochrome, subordinating her occasional unfavorable angles and mannerisms more than we've previously seen, and enhancing her many good ones. Mamoulian now and then gets a flash of his usual camera-minded direction, as in the sequence where the two leads meet. But for the rest, it's pretty routine.

16 MM | BUSINESS MOVIES

THE INSIDE OF ARC WELDING

Technical-educational, 400 ft. Kodachrome, sound.

Presented by General Electric.

Produced by **Raphael G. Wolff Studios.**

Direct-16mm. recording by **Telefilm.**

Every producer of 16mm. business-films ought to see this, the first of a series of six, for it clearly points the way to what 16mm. producers can do these days that their erstwhile market for sales films has dwindled.

This particular picture is an outstanding example of what can be done with Kodachrome movies to teach difficult subjects. Through the cleverly blended use of normally photographed action, close-ups of cut-away sections, and excellent animations, the film tells the story of electric arc welding even better than an actual demonstration could. The close-up shots of the welding arc are sensational.

HELPING BUILD ARKANSAS

Institutional film, 800 ft. Kodachrome, sound.

Presented by Arkansas Power & Light Company.

Produced by **The Calvin Company.**

While far from being a poor representative of its type, this picture impressed us as being decidedly below par for its producers. The photography of the exteriors is excellent, but on the interiors, the cinematographer decidedly missed fire. The film traces the growth of electric power in rural Arkansas from 1914 to the present, and employs several interior sequences to show the "before and after" of the spread of rural electrification. It is in the "before" scenes that we felt the camerawork was badly at fault. In scenes like this, purporting to show the unfavorable lighting conditions of the days of coal-oil lamps, definite effect-lightings are called for. But in this picture, they aren't delivered: as far as lighting goes, there's very little to differentiate the kerosene lamp period from today's electric-lighted period—a distinction the sponsor was most anxious to make.

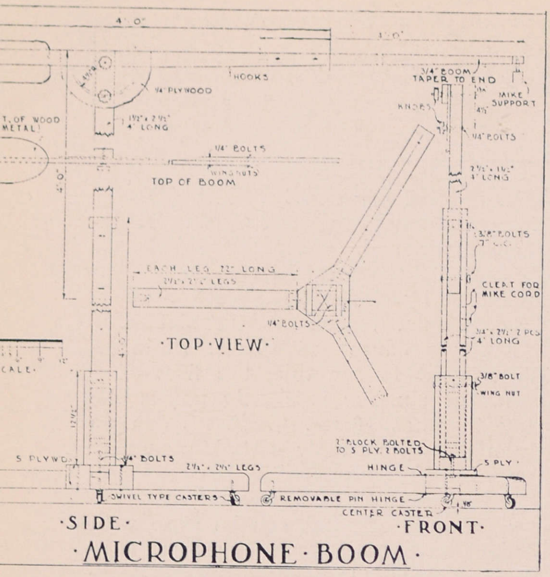
Direction and story-presentation also lack something in imagination. After getting off to a decidedly good beginning, showing things as they were before the spread of electrical power, the film bogs down badly, and expends a good deal more footage than is necessary showing the sponsor-firm's dams, transformers and power-lines.

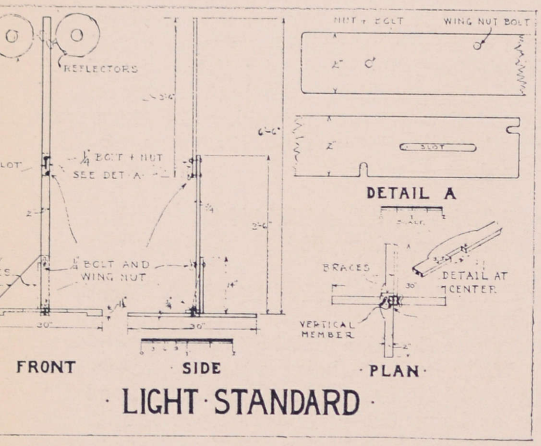
Clever use is made of animated miniatures to convey the increasing centralization of the state's power facilities. It is to be regretted that the same technique is not employed to show how power-lines can be switched to keep power flowing in emergencies. The color print and recording are well up to the usual Calvin standards.

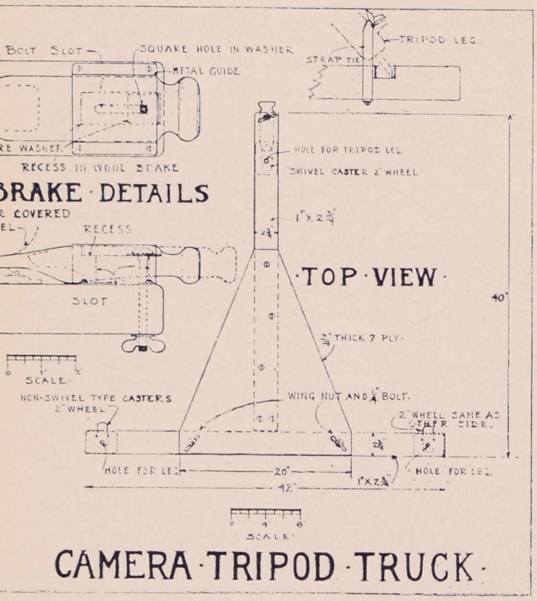
Building A Microphone-Boom For 16mm. Sound Home Movies

By CLARENCE N. ALDRICH

Past President, Long Beach Cinema Club







ONE of the first things you learn when you begin to shoot your home movies in 16mm. sound is that microphone-placement is every bit as important to your scene as is camera-placement. The mike has to be close enough to the actors to give your recording good quality and volume, yet of course it can't be visible in the scene itself. And if your actors are going to move around much, your recording will be a lot better if the mike can follow them around; otherwise, both the quality and the volume of their voices will change as they approach or recede from the mike that picks up the sound.

The professionals, who have been making sound-films for nearly fifteen years now, found out long ago that the ideal sound pick-up is by suspending the mike on a boom which will hold it above and a bit in front of the actors—just out of the camera's field—and which permits moving the mike so it can follow the players around the set. But before that, they tried out plenty of other ideas which, while they worked, didn't work well enough.

Since I bought my RCA 16mm. sound-camera some time ago, my experience in making home-movie sound films has paralleled that of the professionals. First I tried setting the mike up on a stand or tripod just outside the scene; but except in close shots, that usually failed to get it in close enough to give me good sound quality, and of course it couldn't "follow" the actors at all. Sometimes, when the scene permitted, I tried hiding the microphone right in the scene, behind a pile of books or a vase of flowers. That gave me better sound, but if my people walked, or even turned away, I still couldn't follow them.

Getting more respect for the professional sound-men every minute, I next tried suspending my mike obove the actors on a cord stretched overhead across my set. This gave me the sound quality I wanted, but again it didn't permit the mike to follow the ployers if they moved. Then I tried tieing the mike onto the end of a fairly long bamboo pole, and having some more or less willing helper hold the pole overhead, so that the mike was placed in the ideal position above the actors. That was a good deal better; it put the mike where it was most useful, and enabled it to follow the people around. But a microphone—even a lightweight one—at the end of a six- or eight-foot pole doesn't take long to grow surprisingly heavy. After a few takes in which my helper's arms grew tired and let the mike drop down into the scene, I agreed with the professionals that an untiring steel microphone-boom is the best way to handle the mike.

So I decided to buy myself a good, commercially-manufactured microphone-boom made of metal, with pretty chromium-plated trimmings for appearance's sake, and rubber-tired wheels so it could be easily moved about the set.

But when I tried to buy one of these booms, the dealer told me, "We can't sell you one without a priority number!" And to get a high enough priority rating to permit me to buy that boom before the war was over is impossible for an ordinary, garden variety of cinemateur like me. It was a case of make one yourself—or go without . . . and while you're at it, don't forget that metal tubing is on a priority basis, too.

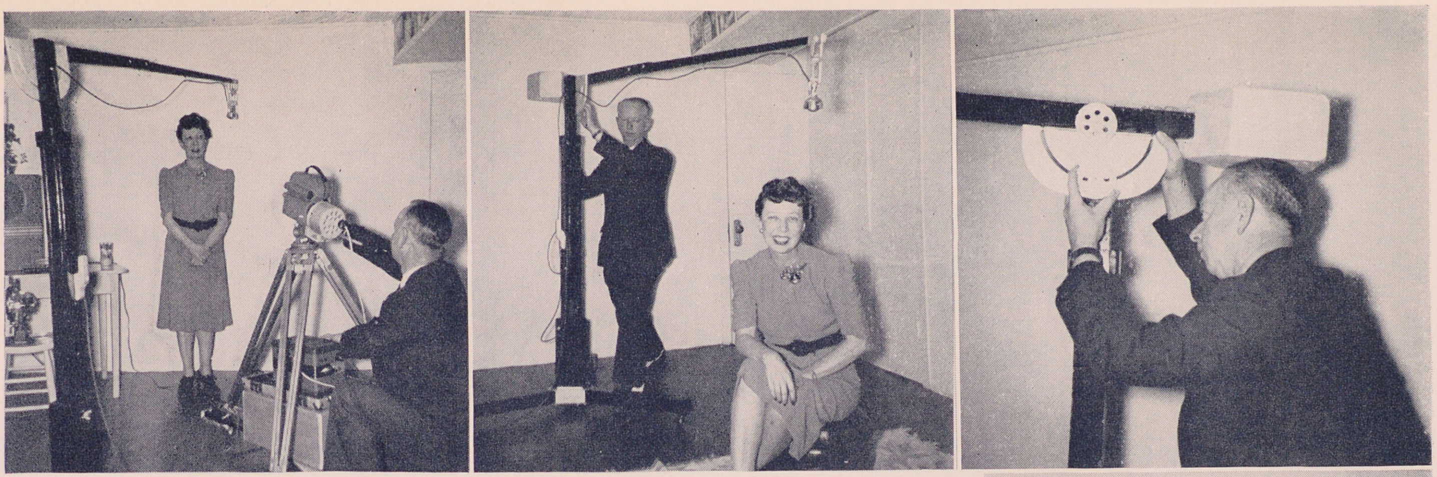
I finally decided that the only way I could get my mike boom was to construct it of wood. I made a few sketches from pictures of professional ones I'd seen in THE AMERICAN CINEMATOGRAPHER, but I was still a bit in the dark as to the proper dimensions. But when, a few weeks ago, some of us from the Long Beach Cinema Club joined Bill Stull in making some tests of the new Auricon 16mm. sound-camera, I saw just the type of mike-boom I wanted. I whipped out my pocket ruler (you'll seldom see an architect without one!) and finally secured the dimensions for the mike-boom I'd been planning.

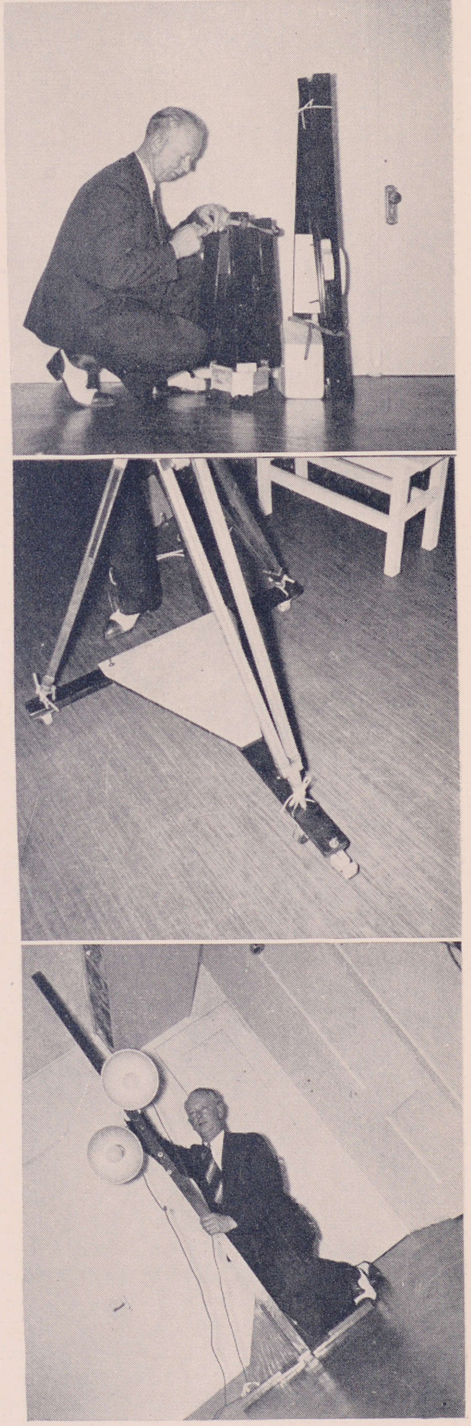
Using these dimensions, I've made up a really satisfactory microphone-boom which can be constructed of wood, using only a few nails, bolts and hinges. It stands seven feet high and its eight-foot arm is pivoted so it can be raised a good bit higher than this; yet the entire outfit can be dismantled very quickly and folded up into a small space for storage or transportation. None of the folded members are over four feet long.

The base has three legs, with four casters, one at the tip of each leg, and the fourth in the center of the base, to provide an extra support at this point. To make the outfit portable, the base legs are hinged to the center support so that they can be folded. To make this joint rigid, without having to complicate the design with diagonal cross-braces, you will notice I employed *two* hinges at each joint—one above the joint, and one below. The one at the top of the joint is an ordinary hinge, and is put there to permit folding the legs. The lower one has a removable pin, so that when you want to fold the device, this hinge comes apart, but when the two parts of the hinge are together and the pin in place, the leg is virtually as rigid as a solid member.

The upright is made in two sections, held together with a pair of 3/8" bolts, centered 7 inches apart, and fitted with wing-nuts. The boom-arm is also made in two 4-foot sections, tapered, and fastened in the same way with a couple of ¼" bolts and wing-nuts.

The boom is pivoted, 18" from its large end, to the upright, and a wooden





Above, left and center: The mike-boom in use; right: detail of adjusting quadrant. Below, from top to bottom: mike-boom folded; camera-truck, and lamp-standard.

counterweight (metal, if you can get it!) is attached to this short overhang to balance the weight of the long arm and the microphone. Naturally, the precise size and weight of this counterbalance will depend on the type of mike you use, and the type of wood you use for your boom-arm.

To permit adjusting the angle of the boom, a slotted quadrant of plywood is fitted to the under-side at the point where the boom-arm is pivoted to the upright, with a bolt and locking knob passing through both the upright and the curved slot of the quadrant. With this, the boom can be raised or lowered freely, or locked rigidly in place. The two adjusting knobs at the junction of the boom and the vertical support were made from the wheels of a toy wagon. You'll notice, too, that four small hooks were provided on the under-side of the boom, to support the microphone cable, and keep it from dropping down into the picture, and a cleat was placed on the upright on which the mike-cable could be wound.

You can finish the woodwork of your boom any way you've a mind to, painting it, varnishing it or staining it, as may suit your particular fancy. To get that chromium-finish touch we've been trained to like in our photographic equipment, I used a little aluminum paint here and there on mine—on the counterweight, the adjusting quadrant, parts of the base, and so on. This isn't necessary, but it makes the home-made gadget look dressier!

The next thing I needed was a good, collapsible tripod-truck—one that could be taken down quickly for transporting from place to place, and one which would be steady and strong, with casters to permit wheeling my camera quickly into position, and a brake that would keep it from moving, once my shot was lined up.

Again I beat priorities by building the device almost completely of wood. I arranged two wooden members, each of 1x2¾" stock, in the form of a T, reinforced with a triangular piece of ¾" plywood (7-ply) 20" wide by 24" long. You can, if you want, hinge these legs to fold; but I found it simpler to make the rear leg (which forms the top of the T) in one piece, and fasten it to the rest of the assembly with a pair of ¼" bolts and wing-nuts. At the ends of these two legs, I mounted two 2" non-swivelling wheels, and at the tip of the third leg, I placed a 2", swivelling wheel.

A wedge-type brake constructed of hardwood clamps down on this third wheel and keeps it from either swivelling or revolving when you're shooting. The wedge is held in place by guides, and moves straight in and out. When in the "out" position, it's clear of the wheel; when it's in the "in" position, it bears tightly against the wheel and acts as a brake. A bolt, fitted with a wing-nut and washer, passes through a slot in the wedge and attaches it to the leg of the tripod-carriage. To tighten the brake, you shove the wedge forward and turn the wing-nut.

The tripod-legs of the camera fit into holes at the ends of the three legs of the truck. I use straps which pass around the wooden member of the truck and up and around the tripod-leg to hold the tripod firmly in place, but you can also use heavy rubber bands or coil springs such as you use on a screen-door. In the latter case, it would probably be a good idea to make little notches in the ends of your tripod-legs, into which the springs can fit.

The triangular piece of plywood on this truck serves not only to reinforce the device, but also to provide a handy place to put such accessories as your camera-case or (in my instance) the amplifier of a single-system sound-camera.

Another useful gadget I've made in which wood gets around priorities is a collapsible lamp-stand. In general, this pretty well follows a basic design which has been described a number of times in this and other photographic magazines, but the ones I've built are designed so they can be folded compactly for storage or transportation.

The lamp-stand consists of a cross-shaped wooden base, from the center of which extends a wooden upright onto which you can attach any number of "clamp-on" Photoflood reflectors. If you're not much concerned about the problem of moving your equipment from

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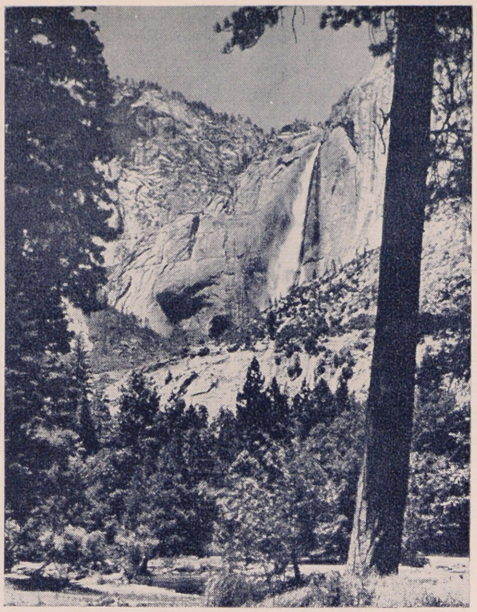


This Year – Make A GASLESS VACATION MOVIE!

By WILLIAM STULL, A.S.C.

WARTIME rationing of gasoline, tires, and even rail transportation as well, will probably restrict your travel opportunities this summer—but that doesn't mean they'll necessarily put a crimp in your vacation movie-making!

To most of us, the word vacation has come to be synonymous with the idea of going somewhere, and a vacation movie, in consequence, indicates a cinematic record of that trip. And it's all too easy to reason that if you can't obtain gasolines, tires, or even transportation by train, plane or bus wherewith to "go somewhere," you can't very easily make a moving picture record of the vacation trip you don't take.

That's excellent reasoning—beautifully logical and all that—except that it leaves out of consideration one simple little fact: that the total effect of a movie on the screen is the illusion produced by a properly chosen succession of scenes. And it's not at all necessary that successive scenes be taken at either the same time or the same place in order to produce the illusion that they were. In other words, there are quite a few ways you can make an excellent movie during your vacation—one that shows you and your family amid almost any vacation surroundings you desire—and do it without leaving your home town!

It's a matter of combining what the professionals call "stock-shots" and "added scenes." The stock-shots, most of us have in all too great profusion. If we're among the rare few who can be hard-boiled when editing our own films, there will probably be plenty of stock-shot footage of almost every place we've vacationed since the camera bug caught us, buried among the left-over scenes from past vacation epics. If we're among the more average filmers, those stock-shots are still available, but they're buried right *in* our vacation pictures, in the form of excellent (but repetitious) scenic shots we just hadn't the heart to eliminate.

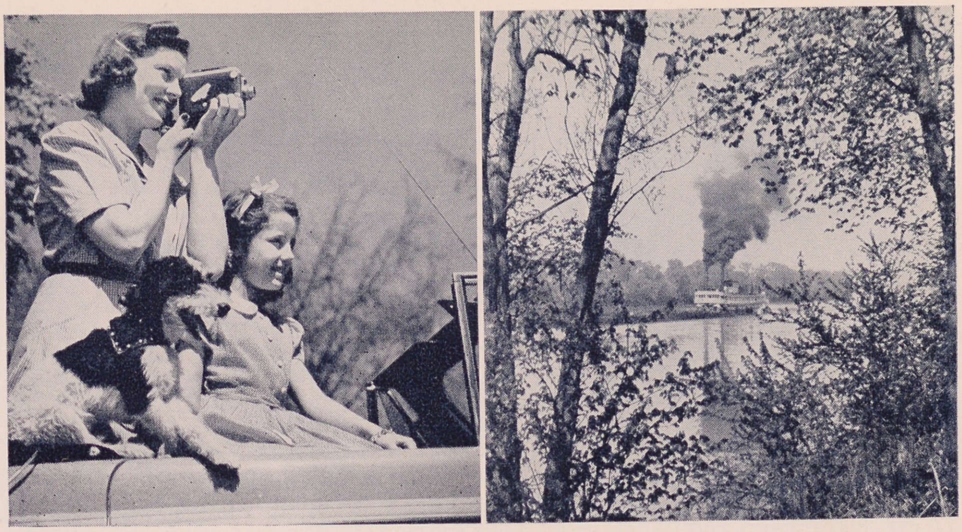
A picture I saw at a recent cine-club meeting is a perfect example of this. 'Way back in 1941, when tires were plentiful and gas unrationed, this chap had gotten into the family car and covered practically all of the Western National Parks. He had looked in at the Grand Canyon, then headed up through Zion and Bryce Canyon National Parks. After that, he had spent several days in Yellowstone, and driven over to Glacier Park, where of course he took the boat trip to Canada's Waterton Lakes Park, as well. From that, he'd rolled along through Jasper National Park, Banff, Lake Louise, Vancouver, and Victoria, and come home to Hollywood, paying due attention en route to Mt. Rainier National Park, Crater Lake, and of course Yosemite. All told, his car must have covered fifteen or twenty thousand miles, and his camera (judged by what he put on the screen) nearly as much, for he showed a very generous 1600 feet of 16mm. Kodachrome which looked as though most of the editing had consisted of snipping off the leaders and putting in commercially-made titles identifying the footage shot in each park.

As a matter of fact, he had ample footage to make at least four complete pictures—more likely half-a-dozen. And he had practically no scenes that tied himself or his family in with the many interesting places he had visited. A perfect invitation, in other words, to spend this summer's holiday making a gasless vacation movie—1942 style!

There are quite a number of different ways you can do this, but here's one way I'd tackle it if that film were mine. First, I'd break it up into about five separate, one-reel pictures—one to each Park or group of Parks visited. The National Parks of the Southwest—Grand Canyon, Bryce and Zion—would logically group together to make one. Yellowstone and the Grand Tetons logically make another. Glacier and Canada's Waterton Lakes constitute a third. The rest of the Canadian visit—Jasper, Banff, Lake Louise, Vancouver and Victoria—could be grouped together with some such title as "Canada's Western Wonderlands." The footage secured on the run down the Pacific Coast could be made into one, or maybe even two or three complete one-reelers, depending, of course, on how much footage was gotten at each point. In addition, he had interspersed a lot of odd shots of flowers at each of his stops, which could, if you wished, very well be made into a complete picture dealing entirely with "Wildflowers of the West."

This initial trimming would give you five (or maybe six) pictures averaging somewhere between 250 and 300 feet in length—a bit short, you'll say, for one-reelers. Correct! But don't forget you'll need titles to tell the story completely: they'll probably add 50 to 100 feet per reel, for you'll want to cut in a title at every point where in a private showing you feel called on to speak a word or so of explanation, to make what is seen on the screen more clear.

In addition, as I think I pointed out earlier, this chap's excellent footage had very few, if any, scenes that tied him and his family into the trip. So the next step (which can really be done best even before the titling) is to make a good number of "added scenes" to remedy this lack. Pick backgrounds which are either noncommittal, or more or less similar to what *might* be expected in the neighborhood of the scenic shots you've already got. Against these backgrounds, make shots of yourself and your family, apparently looking at—or even photographing—the scenery. Cut these in with the scenic shots, and if you do the job properly, on the screen there'll be the illusion that the two were made together. In other words, you'll have put yourself into the picture.



Viewed in succession on the screen, these shots suggest that the girl in the left-hand picture was snapped as she photographed the right-hand landscape—but actually each of the two shots were taken hundreds of miles and several months apart!

If in any of your scenic long-shots, you show members of the family, be sure when you make these tie-in "added scenes" to have them wearing the same costumes. If you haven't long-shots which actually show yourself or your family on the real location, you'll have more freedom in costuming: just put them in the sort of clothes they *might* have worn when they were on that location.

The problem of suitable backgrounds isn't half so hard as it might seem. The secret lies in *suggesting* the background in the personal shots, rather than showing it literally. The sky, for instance, is pretty much the same whether you photograph it in Canada or in Kankakee. A tree-branch is pretty much the some—provided you select the same type of tree—no matter where you film it. In one of the illustrations, for example, the long-shot was made in Yosemite, while the close-up, which when intercut would give a very satisfactory suggestion of being shot in the same place, was actually made in New York. The scene of the river-boat was made on the Ohio river, near Marietta, while the accompanying two-shot—which gives a very convincing suggestion that the girl shown was filming the boat—was made near Rochester.

Camera- and lens-angles are very important in putting over this kind of trickery. The camera-angle used in making the closer shots of your people should be such as would be believable in a reverse-angle shot made on the real location, showing your family looking at the scene, or you filming it. In the Yosemite picture, for example, you'll notice that the long-shot suggests that it was (or might have been) made from a little rise in the ground above the river-bank, and the close shot of the people was made from a slight upward angle, too. Also, the center of interest in the long-shot is the waterfall—and in the close-shot, the girl's camera is pointed a bit upward, just as though she were pointing it up toward the fall.

In the same way, the scene of the river boat is from a level viewpoint and angle, and the intercut close-shot of the people apparently filming it preserves this level-angle viewpoint. Also, in both instances, the girl with the camera is looking in the direction on the screen which suggests that she is looking (and shooting) right into the accompanying scenic long-shot.

If you have a telephoto or long-focus lens, it is a very good idea to use it when you make these intercut "added scenes." Using a 2-inch or 3-inch lens in place of the usual 1-inch (25mm.) on a 16mm. camera for close angles like medium-shots or close-ups, the lessened depth of field of the longer-focus objective will tend to diffuse your background, and make it less positively identifiable. For the same reason, if you have a neutral-density filter, use it on these "added scenes," so that you can shoot with your lens wider open, again cutting down on depth.

Merely cutting in "added scenes" like this will help make your gasless vacation pictures: but if you want to carry the idea to its fullest and most enjoyable development, plan your "added scenes" so that you build up a little story around your scenic shots. This "story" doesn't have to be a complicated affair; all you need is a simple thread of story upon which to string your scenery. Any number of story ideas will probably suggest themselves to you—not only ideas based on things that actually *did* happen, but on things that *could* happen, as well.

For example, one of the best story-scenics I've seen was "A Midsummer Night's Dream" made several years ago by John E. Walter, now the President of the Los Angeles 8mm. Club. His story premise began with some shots of himself and his wife discussing where they would go for their vacation. All through dinner and the wifely dishwashing that follows, they are shown poring over circulars dealing with various vacation spots; afterward, they seat themselves in the living-room—not to read the evening papers or their favorite magazines, but to keep on studying vacation travel-folders. As each new folder is picked up, it serves as a natural introduction to scenic shots of that particular locality, generally, since Walter is a thoughtful cinemaker, including shots of the pair walking along trails, or enjoying the scenic views. Finally comes bedtime, with Walter still sleepily studying a travel-folder—this time of the Grand Canyon. We see the scenes he shot there, ending up with a very skillfully-handled climax in which, trying to get precisely the camera-angle he wants, Johnny takes an extra step backwards—and apparently tumbles over the rim of the Canyon! A quick dissolve ends the picture more reassuringly: the luckless vacation-planner has merely capped a nightmare by tumbling out of bed!

In another of his films, this same filmer has used an idea which could very well be adapted with only minor changes to many a 1942 vacation film. At the start, we are introduced to Attorney Walter preparing for a big case, snowed under with law-books in his office. Telephoning his wife, who is seen packing the start an expected vacation, he informs her that the trip is off, at least until his case is won. A montage follows, in which "flash" shots of Walter hard at work, both in court and at his office, poring over his law-books and briefs, with pages flipping from the calendar, denote a considerable lapse of time. Finally we see him, still at work, in his office one evening, when his better half appears and forcibly drags him away to a movie. As they seat themselves in the theatre, the title of a "Pitzfatrick Travelogue" flashes on—and, of course, proves the entering wedge for a succession of Walter's best Kodachromed vacation scenic shots, deftly intercut with shots of Walter and his wife in their seats in the theatre, registering their reaction to the scenes. Eventually the end-title of the travelogue is seen, and the pair leave the theatre, with the comment that "Well, I guess that's all the vacation we'll get this year!"

The same general idea can easily be brought up to date in some fashion like this. Fade in on the husband sadly regarding the thin, worn tires on the family car. (A flat tire, or a badly shredded blow-out would be even better—but don't, by all means, get one just for Art's sake!) Shaking his head, he walks sorrowfully into the house, and remarks to Wifie, "Well, I guess there's no vacation-trip for us this year!" To this she replies, via close-ups and title "Remember the movies you took when we went to so-and-so?" He nods, and, taking the hint, threads up the projector. As he starts it, cut to a title—filmed with a wide black border and rounded corners to suggest a picture on the screen—simulating the main title of a picture made on that trip. This, of course, actually introduces the shots you made of that place.

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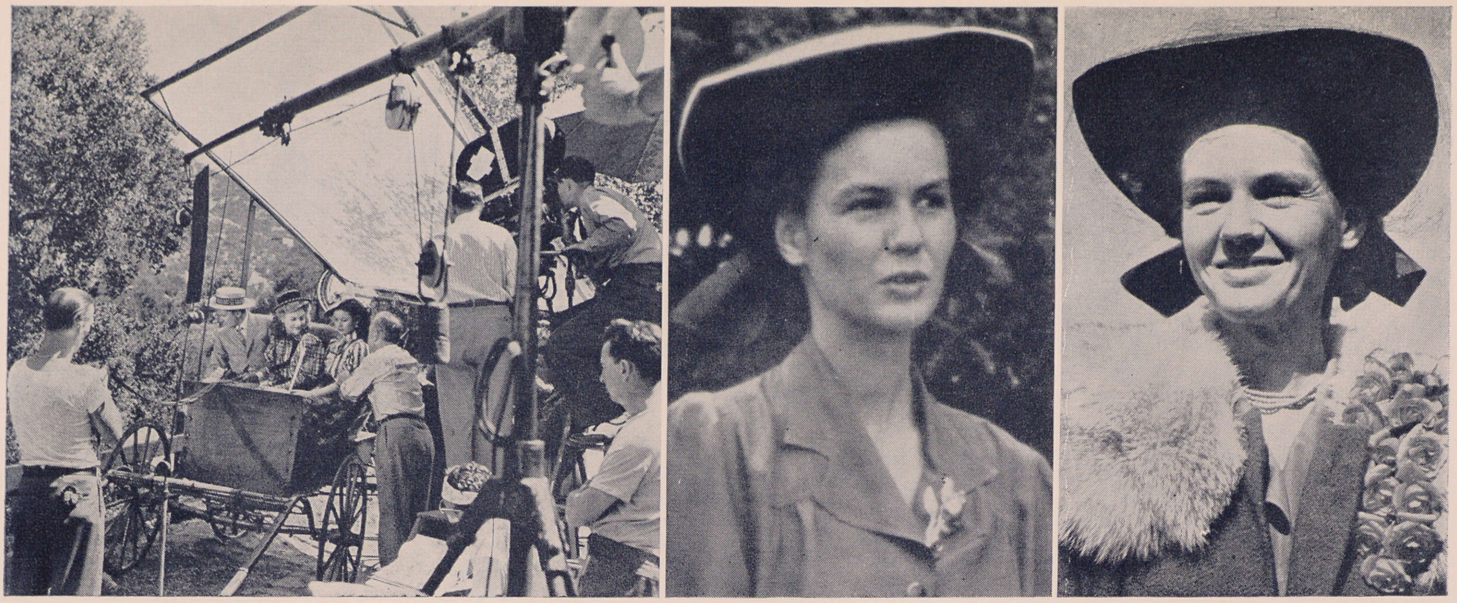


Left: How professionals diffuse sunlight with overhead scrims; center and right: note how in these enlargements from Kodachrome, the shot made in direct sunlight accentuates wrinkles, while shot of same girl in diffused light subdues them.

Try Diffused Lighting For Kodachrome Close-Ups

By RAY RENNAHAN, A.S.C.

A CONSTANT source of amazement to professional cinematographers—especially those of us who have made pictures in Technicolor—is the way so many amateurs overlook the advantage of using diffused lighting when photographing people outdoors in Kodachrome. Color—whether it's Technicolor or Kodachrome—is inherently flattering to most players: but a big part of the secret of it is the trick of combining diffused lighting with the naturally flattering fact of color.

Study any Technicolor picture (except, perhaps, a travelogue where things had to be shot as they were or not at all); in the exterior sequences, you'll almost never see close shots of the players made in direct sunlight. The effect may look like direct sunlight—but if you study it closely, you'll see that the sunlight was diffused—softened down—in some way, and probably relieved where necessary by reflectors or color-corrected "booster" lights, in order to get the most flattering result.

The reason for this is simple enough. Direct natural sunlight is not only an intensely strong source of light: it is also intensely concentrated. It comes very close to being what the illuminating engineers like to term a "point source of light." Though the actual source of light—the sun—is immeasurably huge, its rays travel so many million miles that those which illuminate any given point on this earth reach there travelling almost perfectly parallel. That is why sunlight throws such a strongly-marked shadow, rather than the vaguer one you get from diffused light-source like a Mazda lamp.

That strongly directional lighting throws every little blemish and wrinkle in a person's face into strong relief. On the screen, even in close-ups of a young and pretty girl, you'll see lines and wrinkles you don't actually perceive when you're looking at her in real life from close-up distance.

On the other hand, a diffused lighting—either indoors or out—is a softer lighting. The light-rays aren't travelling absolutely parallel, like a bundle of arrows. They're scattered. They strike your subject's face from more than one angle. So if some of the light-rays tend to accentuate those little lines and wrinkles, there will be others which strike the same area from slightly different angles, which tend to light up the little shadows which make the strong photographic image of the wrinkles, and effectively "wash out" the blemishes.

All of which is very nice in theory. But I can see many a practiced amateur filmer starting to turn the page with a sniff, and mentally asking how a chap with only a 16mm. or 8mm. camera, and without the elaborate light-controlling facilities of a studio cinematographer, can control sunlight so as to get this diffused daylighting in his exteriors.

Luckily there are several simple and altogether practical ways this can be done. Where you can exercise any control over the placing of your action, the easiest way is to simply move your subject out of the direct sun, and shoot your scene in a spot that's shaded.

Now, don't make any mistake in this: choose a spot that's comparatively lightly shaded, in preference to an area of really heavy shadow, which would of course simply complicate your exposure problems. Pick what the exposure-guides call an "open" shadow—an area which, while it's shaded, still gets plenty of soft reflected light from adjacent, sunlit areas. For example, a big, shady porch on the sunny side of the house—or in the shade of a tree surrounded by a good-sized open expanse of sunlit lawn—or on the shady side of a building with a sunlit lawn, street, or another building to act as a natural reflector to throw in a diffused light to "open up" the shadow.

Incidentally, if for any reason you should have to shoot Kodachrome around the middle of the day, when if your subjects are in direct sunlight, the high-angled light will do the very worst with shadows in their eyes, under noses, chins, and so on, you can get surprisingly pleasing results by the simple trick of turning your people around so you have their faces in the shadow, relieved with a nice, outlining back-light. Of course in this case, you'll be smart enough to take your meter reading for the faces, carefully shielding the meter's eye from the direct sun of the rim-lighting.

Another way to get this diffused lighting is to shoot your scenes on a slightly overcast day. Notice that I say *slightly* overcast! On a heavily overcast day, the heavy clouds will not only give you a problem in exposure, but they'll alter the color-balance of your lighting. The clouds will stop most of the blue component of sunlight, leaving an excess of red and infra-red (you know how easily

(Continued on Page 327)

A Scenario For The Golfer's Wife

By NORMAN STUART REID

Photographed on Agfa Flm.

GOLF and movie-making are two grand sports, and two that can be combined in an amazing variety of combinations. But when you combine 'em, there's no reason for being deadly serious about it every time! Home-movie audiences aren't very likely to be absorbingly interested in slow-motion analyses of your own golfing form, and as for the form of champions, or the details of local tournaments—well, they can see them better in the theatres, in professional sports-shorts and newsreels.

But a golfing comedy—! That's another thing! Here's one that ought to keep any home or club audience amused to the last frame.

Main Title:

THE GOLFER'S WIFE

Scene 1: FADE IN. Close-up of alarm-clock. The hands point to 5:00, and the alarm is set for the same hour. The clock is jiggling, as though the alarm were ringing stridently. A male hand quickly reaches into the frame and shuts off the alarm.

Scene 2: Close-up of a pair of slippers by bedside. A man's feet come down and slip into them, then walk off. (Pan after them, if possible.)

Scene 3: Close-up of shower-handle. A man's hand reaches in and turns on the water.

Scene 4: Close-up of shower-nozzle as water starts to flow.

Scene 5: Close-up, corner of bathroom floor. First the coat, then the pants of a pair of masculine pajamas are flung carelessly down.

Scene 6: Shoulder-length close-up of a man (rear view) enjoying his shower.

Scene 7: Close-up of wife, in bed. She's obviously been wakened, and is trying hard to get back to sleep again.

Scene 8: Same as Scene 6.

Scene 9: Same as Scene 3. The man's hand (wet, this time) turns off the water.

Scene 10: Same as Scene 5. A large, damp bath-towel lands limply on the floor.

Scene 11: Low-level close-up outside bathroom door; slippered feet come out and walk to side of frame.

Scene 12: Close-up of dresser-drawers. A drawer is jerked open, and man's hand removes underwear. That drawer is slammed, another opened, and a sport-shirt is removed.

Scene 13: Close-up, in closet. Man's hands reach in and bring out a pair of slacks with suspenders attached.

Scene 14: Close-up in mirror. A man's face comes hurriedly into the glass. He takes a quick look at himself—brushes his hair down with one hand, and exits.

Scene 15: Close-up of bedroom door. The door is slammed violently.

Scene 16: Close shot of closet door. It is opened; hands reach in and come out with golf-bag, and door slams.

Scene 17: Close shot of front door (closed). Joe Duffer, golf-bag over his shoulder, hurries down the hall, and through the door slamming it behind him.

Scene 18: Close-up of rear end of car. It starts with a puff of smoke from the exhaust and backs quickly out of garage.

Scene 19: (Shoot at 8-frame speed.) Long-shot across drive-way to street. Car backs speedily out of drive, reverses and rushes away down street.

Scene 20: Full shot of Marge Duffer, the golfer's wife, in bed. She pitches and tosses, clearly having a hard time getting back to sleep.

Scene 21: Close-up of alarm-clock, same as Scene 1, but hands point to 5:15. LAP-DISSOLVE or Fade out and in to same, but showing 8:30.

Scene 22: Same as Scene 20. Bed is more rumpled, and Marge is still pitching and turning. Finally she looks at the clock, and decides to get up. FADE OUT.

Scene 23: FADE IN. Long-shot, *ad lib*, of Joe Duffer, enjoying himself on the golf course. FADE OUT.

Scene 24: Medium long-shot, in kitchen or breakfast-room. Marge—up and dressed but looking rather bedraggled—is sitting forlornly eating her breakfast.

Scene 25: Close-up of Marge. She seems to be reading the Sunday paper—but the paper is upside-down! FADE OUT.

Scene 26: FADE IN. More long-shots of Joe, still golfing. FADE OUT.

Scene 27: FADE IN. Long-shot of Marge, as she wanders around bedroom and bathroom, picking up after her spouse. (Follow-shot if practical.) Intercut close-ups *ad lib* to get over idea she doesn't enjoy being left alone this way.

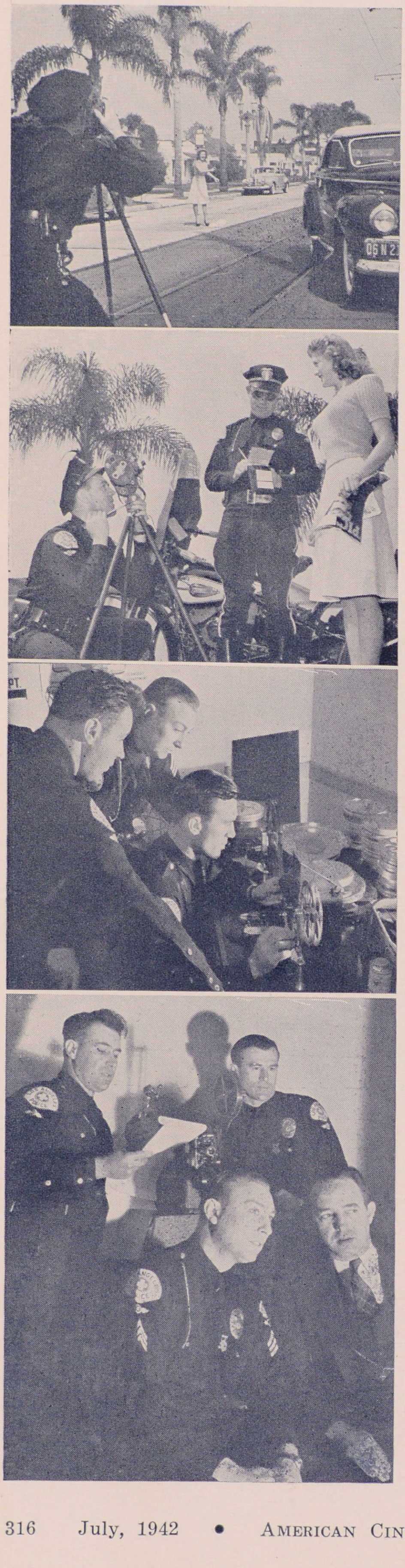
Scene 28: Long-shot, in living-room. Marge comes in and sits in chair, starting to read newspaper.

Scene 29: Close-up of Marge, reading. She reads listlessly, then starts as she sees something that gives her an idea.

Scene 30: Close-up of newspaper headline: part of it extends out of frame,

(Continued on Page 326)

Right: Sergeant Sheldon takes a meter-reading while Officer Phillips prepares to shoot Kay Kyser—with a 16mm. camera. Below: top, filming a near-accident; second, Sally Wadsworth, in close-up, gets a ticket for jaywalking; beneath, editing the police-made film; bottom, rehearsing narration: left to right, Officer Glavas, Sgt. Sheldon, Officer Phillips and Capt. Parker. Photos courtesy Street & Smtih and "Pic" magazine.



POLICE MAKE FILMS TO TEACH TRAFFIC SAFETY

By WILLIAM STULL, A.S.C.

WHAT would you say if, as you drove to work tomorrow morning, you saw a blue-uniformed sergeant of police standing in the street, carefully instructing a pretty girl how to jaywalk, while another uniformed officer photographed her with a 16mm. Filmo? Or if, on your way home, you encountered them filming bespectacled Kay Kyser trying to force his way across the city's busiest boulevard against the stream of rush-hour traffic?

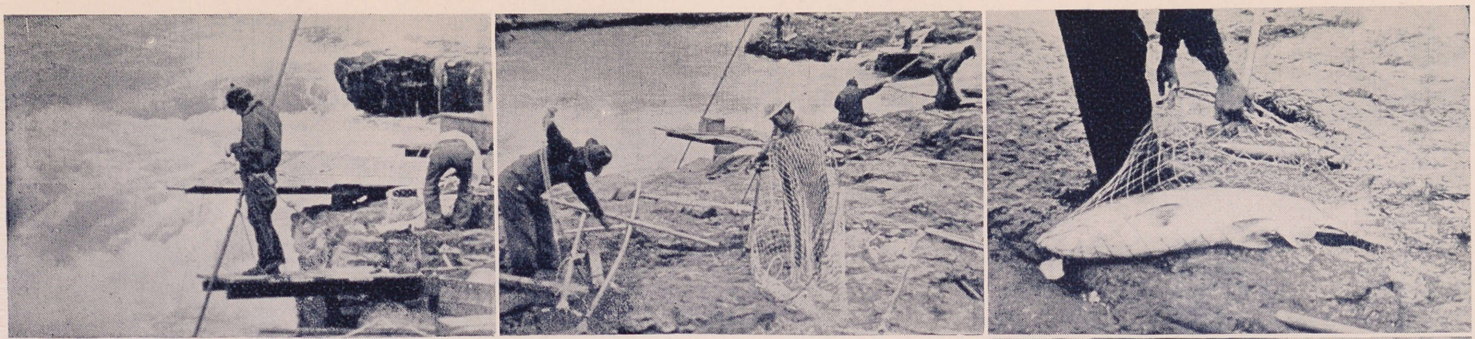
If you happened to be in Los Angeles, you would recognize these movie-making coppers as members of the Police Department's Traffic Education Unit, doing their job to make the streets safer for pedestrian and motorist alike. For Los Angeles, the home of the professional movie industry, has found that police-produced 16mm. sound-films which can be shown scores of times each week to clubs, civic groups and schools are a very potent help in their department's task of making one accident occur today where three took place yesterday.

These pictures—there have been three of them released so far—are really "police productions" in every way. With the exception of the sound-recording, every detail of production—scenario-writing, photography, editing, title-making, and writing and speaking of narration—is handled by police officers. And they're so good that we understand Bell & Howell is going to distribute them nationally through the Filmosound Library.

Three men form the backbone of this unusual movie-making unit. Sergeant Stanley Sheldon, who is one of the heads of the Traffic Education Unit, might be termed the producer. Officer Dan Phillips is the very capable director-cinematographer-editor, while Officer Jim Glavas not only writes scripts and narration, but on at least one occasion has done a very professional job of speaking the narrative.

The story really begins some time ago, when Sergeant Sheldon came home from a club-meeting at which an educationally-slanted 16mm. business movie was shown, and found himself lying awake visualizing what a powerful aid movies would be to his job of preaching traffic safety. The next morning, he took his plan to his immediate superior, Captain William H. Parker, who heads the Accident Investigation Bureau. Parker imediately grasped the value of the idea, and together the two placed it before Deputy Chief Bernard Caldwell who, as Director of Traffic, heads the city's drive for safer driving and fewer acci-

(Continued on Page 326)



Making A 16mm. Documentary Among Oregon's Indians

By PHIL M. RICHARDSON

THE Indian Service said they had no objections to movies being taken of the Indians fishing at Celilo but first of all it would be necessary to get permission from these native fishermen. I was told to get in touch with the agent at The Dalles, Ore., Mr. C. G. Davis.

I had just returned from a trip along the Columbia River. At Celilo there is an Indian fishing village whose founding date goes far back to The Time That Was. These people depend for their limited income almost entirely upon the salmon they dip out of the river. What caught my eye, though, was the line of shacks on each side of the highway. They suggested to me that here was a story of primitive man's struggle with civilization.

Here indeed was material for a true documentary film. With the thought that no people in any part of the world desire poverty and will act to prevent improvement in their conditions, I decided to study the situation thoroughly before going ahead. I believe that failure to understand the reasoning of the less fortunate or peoples of other races has often led to the assumption the law of evolution and progress does not apply to those who do not immediately adopt all of the refinements of this day and age.

Mr. Davis kindly arranged for a meeting with Chief Tommy Thompson. An interpretor presented my idea to the old man. The Chief was in good humor and gave the permission I sought.

Then followed months of preparation. Everyone interviewed was anxious to help in any way. Files of the Oregon Historical Society were searched for light on old treaties. The Attorney General's office furnished copies of findings in cases where these treaties were concerned. Trips were made to Celilo from Portland, one hundred miles one way, to talk with Mr. Davis and the Indians themselves.

George P. La Vatta, Field Agent, Indian Organization Division, and his secretary, Mrs. Marguerite Waggener, in the Portland office of the Indian Service were most kind.

Every copy of THE AMERICAN CINEMATOGRAPHER I could beg, borrow, buy or steal was studied for suggestions. Paul Rotha's book, "The Documentary Film," and Paul Burnford's "Filming for Amateurs" were my text-books.

My equipment consisted of a Bell & Howell 70E with a Spider Turret. I used three lenses, 15mm. Cooke *f*:2.5; 1-inch Cooke *f*:2.7; 2-inch Cooke *f*:3.5. A Bell & Howell all-metal tripod equipped with their Alignment Gauge plus a sunshade and filter attachment of my own design was used wherever possible. Where the tripod could not be used, a camera handle was found useful. Film was Eastman Safety, Super-X, and Super-XX, as varying conditions required.

At first I had planned to use Kodachrome, but later changed my mind feeling color might glamourize the poverty and defeat the purpose of the story I was trying to tell.

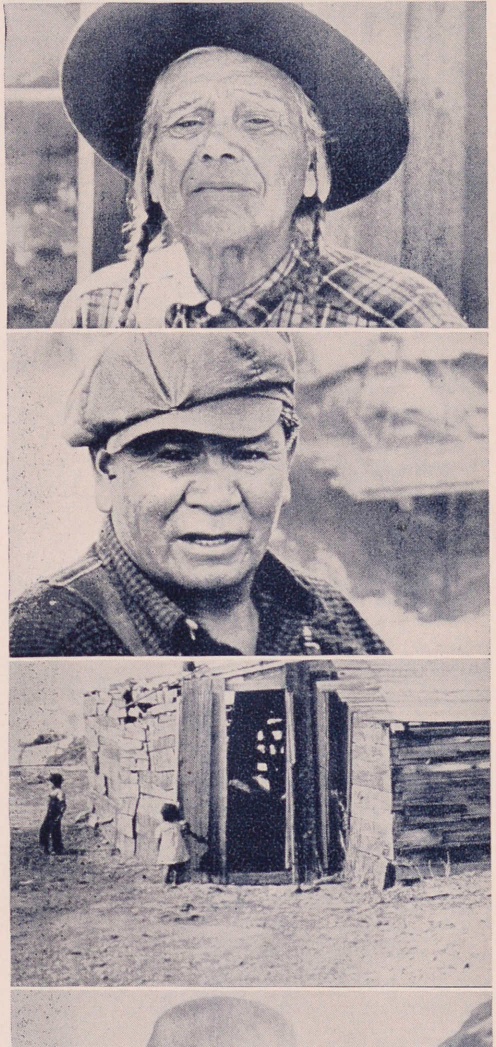
After rewriting my story so many times I knew it by heart, I finally felt I was ready to go on location—one hundred miles from home.

Early in September I arrived at Celilo. On a previous trip I had arranged for a guide to be with me in case my right to take pictures was questioned. My man was gone. The Chief was out of town and so was Mr. Davis, the agent. Realizing most Indians have a real dislike for anyone with a camera I hesitated to go ahead alone.

Late in the afternoon I found a man who said he would take me around. But he would be busy for another week. I drove the hundred miles back to Portland somewhat bewildered at my failure to expose a single frame.

At the end of a week I went up again. No guide. He had gone to Portland. He had arranged with another Indian to furnish the needed help. After a two hours' search I found my new assistant, only to discover him very reluctant to do the job.

Remembering the verbal permission of the Chief I decided to go it alone. Taking the cable carrier to one of the islands in the river I had shot about



Frame enlargements from "Celilo." At top, how the Indians fish; beneath, Chief Tommy Thompson; below, Representative of the Umatilla Indians; bottom, a typical Celilo "home" and one of its inhabitants.

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Get Better Movies of Parades!

By JOHN L. HERRMANN, A.S.C., F.R.P.S., F.R.S.A.

MOST military subjects are taboo these days as subjects for amateur camerawork. But not Fourth-of-July parades! There, amateurs in almost every corner of the country will have an opportunity to film their fill of America's armed might—marching troops—waving flags—bustling "jeeps" and ponderous command cars—and maybe in some cities, rumbling tanks, "half-track" armored cars and motorized artillery.

If you live near any military post or city where there'll be such an Independence Day parade held, you'll surely want to make a parade sequence the highlight of your holiday movies. So take a few tips from a newsreel veteran of years of parade-shooting, and "cover" your subject in professional style, so you'll have pictures worthy of your subject-matter.

The professional's first thought is to pick a camera position where he'll have the best possible viewpoint. The newspapers will usually give you advance notice of the route of the parade: study it carefully beforehand, and make arrangements in advance to set up your camera at a spot where you'll have as nearly as possible the ideal combination of viewpoint, camera-angle and lighting.

Parades should always be filmed coming toward the camera—never going away from it—and if possible, crossing the frame at a diagonal angle. This not only gives you the most effective viewpoint, but also keeps the marchers on the screen long enough so the audience can see what they are.

Never attempt to shoot a parade directly broadside-on. All you'll get shooting from this angle will be a confused blur which is fearfully hard on the audience's eyes and nerves. Moving broadside-on across the frame, the marchers will be moving too fast to be "stopped" by most cine-camera shutters. Besides, no individual object or rank of marchers will be on the screen long enough to be recognizable. Your audience will be constantly straining itself to see what it's all about—and not succeeding.

If possible, pick a location where you can shoot slightly down on the parade. But when I say this, I don't mean an extremely "arty," almost vertical angle! One or two shots like this might make interesting, modernistic compositions, but they wouldn't tell you much about the parade. Pick a spot in a second-story window—or, better yet, on a projecting balcony or marquee where you can get your camera out over the sidewalk and comfortably above the heads of the sidewalk standees, and of course aim your lens so the paraders are coming diagonally toward you.

Never, by the way, attempt extreme low-angle shots, even with a wide-angle lens. One shot like this might be interesting: but if you try to "cover" a whole parade from this angle, you might just as well save the laboratory the trouble of processing your film, for your picture would be just a concentrated headache for its unfortunate audience!

The really ideal angle from which to film a parade is from a slightly elevated position just at a point where the line of march does a turn. This way, you can in a single shot get the marchers approaching your camera on a diagonal, coming closer and closer, and finally turning past as they swing the corner, thereby giving you a variety of angles.

If you have any chance of picking your spot for lighting, choose a set-up that will give you either a front-light on the marching troops (especially if you use Kodachrome) or a three-quarter front cross-light. If your angle includes that desirable diagonal in which you see the marchers approaching the camera from quite a way down the street, you'll get a very effectively accentuated impression of movement if you have a cross-light, with open, sunlit areas in front of low buildings alternating with shaded areas where taller buildings throw their shadows well into or across the street. As the moving men and machines come toward you, passing from sunlight to shade and back into the sun again, your audience will get a greatly enhanced feeling the marchers are really going somewhere.

If you have a camera capable of more than one speed, shoot parades with the cinebox operating at about 50% faster than normal speed—24-frame speed if you're shooting silent, and 32 frames per second if your film is going to be projected at sound speed. If you can afford the extra film, it wouldn't hurt to have the camera going even faster—say 32-frame for silent projection, and 48 for sound. This slows down the action and not only keeps any given object on the screen longer, so it's better recognized, but also tends to smooth out the action.

Nine times out of ten, your parade shots will be better if you make them all, or nearly all, with your normal lens. Wide-angle shots usually give too small an image, and telephoto-shots, except of uncommonly unusual subjects, don't give enough of the "parade" atmosphere. Besides, with tele-lenses, you inevitably cut down the time any object is on the screen unless you pan and "follow" it—which isn't easy unless you're almost professionally expert. If you do make telephoto shots, be sure and overspeed your camera to stretch out the screen-time and smooth the action.

If you can, try to plan your parade sequence so it tells the whole story. Begin with the crowd assembling, long before the parade appears. Cut in some telephoto shots or "staged" close-ups of people (especially youngsters) craning their necks, watching for the parade to put in its appearance. Then show the head of the parade coming down the street. (Here's one spot a wide-angle shot might be useful.) Then follow through with the highlights of the parade itself, with occasional cuts of the crowd, if you can get them. Finally, show the crowd breaking up as the tail end of the parade passes by, and you'll have the whole story.

Sometimes you can manage things so you get two shots of the most interesting parts of the parade, rather than one. Often you'll find that a parade will double back on itself, marching, let's say, north on one main street, and returning on another artery a few blocks to one side or the other. If you make arrangements beforehand, you can often get your long-shots of the parade from a pre-selected spot on the first street, and then hurry over to the return route and bag close-ups from a second prearranged location to intercut. In that event, though, try if possible to plan things so that in both locations your shot will show the marchers travelling in the same direction across the screen.

Two or more filmers can often arrange to "cover" a parade cooperatively the way we newsreel men do, with several cameras at work, each at a different spot, one getting long-shots, another closer angles, a third "cut-in" shots of the crowd, and if possible, a fourth getting shots of the big-wigs on the reviewing stand. Pooling your shots that way, you'll get the most picture for the least expenditure for film—and then, if each of you provides himself with a dupe of the cooperatively-made picture, you'll each have one really complete "story," rather than several incomplete ones!

END.

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By CLAUDE W. A. CADARETTE

Founder, Los Angeles 8mm. Club

Type of scene and mood	Composition and composer	Record number	Size
Small town, picturesque, languorous	1. Intermezzo, "Cavalleria Rusticana", Mascagni	4303	10″
	2. "Andante Contabile", Tschaikowsky	1709	10″
	3. "Veils", Debussy	1920	10″
Garden scenes quiet, peaceful	1. "In a Summer Garden"	9731	12″
	2. "Rosamunde Ballet", Schubert	1312	10″
Excitement, tumult riot, disaster	1. "Night on Bare Mountain", Moussorgsky	11448	12″
	2. "Ride of the Valkyries", Wagner	9163	12″
	3. "William Tell Overture", Rossini	20319-20	10″
	4. "Faust—Ballet Music", Gounod	13830	12″
	5. "Marche Slav", Tschaikowsky	12006	12″
	6. "Magic Fire Music", Wagner	15800	12″
Mystery—Ghostly or murder	1. "Ritual Dance of Fire", De Falla	12160	12″
	2. "Dance Macabre", Saint-Saens	14162	12″
	3. "Sorcerer's Apprentice", Dukas	7021	12″
Fast, busy, excitment, speed	1. "Flight of the Bumble-Bee", Rimsky-Korsakow	6579	12″
	2. "Orpheus in Hades", Offenbach	12604	12″
	3. "Zampa Overture", Herold	13647	12″
	4. "Perpetuum Mobile", Strauss	4127	10″
Lakes, waterfalls, rivers	1. "Faust-Trojan Maidens", Gounod	9647	12″
	2. "Swan of Tuonela", Sibelius	7380	12″
	3. "Thais-Meditation", Massenet	35858	12″
	4. "Dance of the Hours", Ponchielli	11833	12″
	5. "Rustle of Spring", Sinding	20121	10″
	6. "Midsummer Night's Dream—Scherzo", Mendelssohn	7080	12″
Rain, tumbling water, rolling waters	1. "Barber of Seville", Rossini	7255	12″
	2. "Sea & Vessel of Sinbad", Rimsky-Korsakow	8698	12″
	3. "Queen of Sheba Ballet", Goldmark	7474	12″
	4. "Pizzicato Polka", Strauss	1757	10″
	5. "Bacchanale, Samson & Delilah", Saint-Saens	6823	12″
	6. "Coriolan Overture", Beethoven	11909	12″
Processions, parades, grandeur	1. "Aida March", Verdi	11885	12″
	2. "Pomp & Circumstance", Elgar	6648	12″
	3. "Procession to the Cathedral", Wagner	9017	12″
Busy street scenes, traffic, agitation	1. "Soviet Iron Foundry", Mossolow	4378	10″
	2. "Forging of Siegfried's Sword", Wagner	14845	12″
Desert, prairies, loneliness	1. "In the Steppes of Asia", Borodin	11169	12″
	2. "In the Village", Ippolitow-Ivanow	11883	12″
	3. "In a Persian Market", Ketelbey	4338	10″
Oriental, Moonlight, Exotic Nights	1. "Festival of Bagdad", Rimsky-Korsakow	8703	12″
	2. Moorish Ballet from "Aida", Verdi	35780	12″
	3. "In a Chinese Temple Garden", Ketelbey	35777	12″
Spanish, Mexican	1. "Espana Rapsodie", Chabrier	4375	10″
	2. Habanera from "Carmen", Bizet	14419	12″
	3. "Spanish Dances", Granados	35977	12″
Religious, Easter services, solemn	1. "Ave Maria", Schubert	7103	12″
	2. "Adoramus", Handel	15214	12″
	3. "Liebestraum", Liszt	6582	12″
Mountains, Majestic Scenery Scenery	1. Pilgrims Chorus from "Tannhauser", Wagner	9161	12″
	2. "Siegfried Idyll", Wagner	7381	12″

A GREAT percentage of amateur movie-makers endeavor to add to the enjoyment of their audience by projecting their films with musical accompaniment and, in many cases, with sound-effects, secured from phonograph records.

There is no doubt that a background of appropriate music is essential to help create the moods which you desire in an audience, and coupled with suitable sound-effects, your picture has more meaning and life.

Those amateurs who possess dual-turntable assemblies can readily have the music playing on one table, while the sound-effects can be injected by the second turntable as needed. A triple turntable—two for music and the third for sound-effects, professional style—is even handier.

But the owner of a single turntable need not despair, because you can cut your own record for your picture on acetates combining and creating your own music and effects. Most of us know someone who owns a record-cutting machine and these friends are usually looking for an evening's enjoyment of record cutting, especially where a certain plan and program must be carried out.

Working out a musical score from records is not particularly difficult. Scenario films are probably the most complicated, but even they usually require only two or three types of music.

Most sequences are best accompanied by rather quiet, peaceful music. Sequences which contain faster action and dramatic climaxes call for faster—even tumultuous—music. And if you should have any sombrely dramatic scenes, they should be accompanied by rather sombre music.

Simple "home movies" — especially films of family and children—should be accompanied by gay, sprightly music that moves along lightly and cheerfully.

Travelogues should have music which is neither slow nor tumultuous, but which is fairly light and provides a pleasing, but not distracting, accompaniment. If possible, try and match the tempo of your pictured action with the music that accompanies it. To some extent, you can sometimes help an overly slow-paced travelogue by scoring it with gay, fairly quick-paced music. Oddly enough, though, the reverse of this idea does not work out well.

With a little practice, you'll find you can usually improvise very acceptable scores for almost any type of picture with only a few records, if you're given a hint as to what type of film a picture is. But if you can, it is best to plan each score beforehand, making a list of records and music-change cues, so that the score can be re-used. Certain records should be used for certain films, and catalogued not only individually but as a complete score, for future reference.

The scoring of a film should be done very carefully. Probably the most important single factor to keep in mind is the necessity of keeping the musical score always an accompaniment, and not a feature in itself. For this reason, always try to keep your entire score to one type of instrumentation: that is, avoid mixing records played by a military band or dance-band with a score composed of orchestra records, and likewise avoid mixing organ recordings or instrumental solos in with orchestral or band record scores.

Many amateur film-scorers, too, make the mistake of using records of vocal solos or with vocal choruses for scoring purposes. This is something that absolutely should not be done, for the voice

(Cnotinued on Page 322)

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It's a new System for sound recording in 16mm. which will produce results of higher quality. Controls have been simplified, new features have been added, convenience of operation has been emphasized and portability improved. Now, with **CERTIFIED SOUND**, anyone can turn out clear, clean-cut sound films, with results comparable to those of theatrical or similar systems. We offer **CERTIFIED SOUND** as a most important aid in meeting the nation's need for speedy training—in the armed forces, in industry and in education.

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Details of the B-M Model 501-D Recording System for CERTIFIED SOUND

IMPROVED SOUND QUALITY. The new recording amplifier incorporates the *compressor circuit*, which makes sound level control almost automatic. The sound track is more fully modulated and the result is better volume and reproduction quality. The recorder is equipped with the new Type G galvanometer, which gives better exposure on the film.

EASE OF OPERATION. **CERTIFIED SOUND** controls are simplified and centralized; the entire System is operated and controlled from *one panel*. The suppression of ground noise is automatic. A microphone control and three other inputs are provided so that sound effects, musical background from records, etc., can be combined while recording.

PORTABILITY. **CERTIFIED SOUND** establishes new standards in compact, lightweight apparatus. The recording amplifier, anti-ground noise control amplifier, high and low pass filter system and indicating meters are all built into one lightweight case. The only remaining components of the System are the recorder, power supply and microphone.

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Among The Movie Clubs

Films For Exchange

Two excellent films, available for Inter-Club exchange, have been received for review this month. They are:

CLOSE-UPS (200 ft. 8mm., black-and-white). A particularly excellent documentary film showing how the magazine of a progressive amateur movie club is produced. The effect-lightings indicating the way these cine-clubbers burn the midnight kilowatt to bring the magazine into being are particularly noteworthy. Members of clubs which correspond with the group will also be interested in seeing what the various individuals whose names they've seen so often look like.

PICNIC DAZE (400 ft. 16mm. black-and-white; also available in 8mm. version). A clever comedy of an artist's misfortunes when dragged to a very boistrous picnic. This picture, while perhaps not so smooth technically as "Close-ups," (it appears to be an earlier production) is a decidedly better than average comedy. Gags and timing are both markedly superior to those encountered in the average amateur comedy.

Both films are available from the the 8-16 Movie Club of Philadelphia, George Burnwood, Exchange Officer, 3035 Disston St., Philadelphia.

L. A. 8's See "Fire From The Skies"

Outstanding feature of the June meeting of the Los Angeles 8mm. Club was a special showing of the Long Beach Cinema Club's civil defense film, "Fire From the Skies," a 16mm. Kodachrome sound-film dealing with incendiary bombs. The picture was voted as being one of the finest works of its class ever viewed by the Los Angeles 8mm. Club, and hearty congratulations and thanks were extended to the Long Beach Club's representatives for making this preview possible.

Through the courtesy of Honorary Member Bill Stull, the Club next saw "Close-ups," a fine 8mm. documentary made by the Philadelphia 8-16 Club. Harry Markin, present as a guest of Marshall Crawshaw, showed "The Night Before Christmas," a really unusual 8mm. Kodachrome scenario film, embellished with trick photography and synchronized sound-on-disc. Fred Evans, Art Callow and Adolf Apel showed films, and Claude Cadarette delivered a capable talk on continuity.

GERTRUDE MILLAR, Secretary.

"Wonder Film" For Metro

Highlight of the June meeting of the Metropolitan Motion Picture Club of New York was a new surprise epic "Wonder Film," by the redoubtable Joseph Hollywood. Next was scheduled "Nickel Town," a study of the "big city" in terms of the lowly but important five-cent piece, produced by the New York 8mm. Club. "Spring Festival," loaned by Francois Audibert, of New Orleans, and Ernest Kremer's new picture "Flowers," were scheduled to complete the movie program, and a slide-film, "What About Air Raids?" loaned by the New York Telephone Co. ended the evening on a timely note.

FRANK E. GUNNELL.

Zoo-Pic Contest for 8-16's

The June meeting of the 8-16 Movie Club of Philadelphia had as its scheduled highlight a novel contest, that to determine the best film shot at the local zoo by members of the club, with a $5 prize for the winner, and abundant glory (but no cash) for second and third prize winners. A talk on animal photography by a member of the zoo staff was also scheduled.

LEON MERROW.

Exchanges For Long Beach

Through the courtesy of The American Cinematographer, the June meeting of the Long Beach Cinema Club had the privilege of seeing four excellent films from three other clubs. These included "Picnic Daze" and "Close-Ups" from the Philadelphia 8-16 Club; "The Haunted School," from the Syracuse Amateur Movie Makers Association; and Fred Ells' prize-winning Kodachrome, "New Hampshire on Parade" from the Los Angeles Cinema Club. Programs like this, which give us a chance to see what the other fellow does, makes us feel that the projected National Association of Amateur Movie Clubs is a very worthwhile idea.

PRUDENCE BRAKLOW,
Secretary.

Minneapolis Nominates

Scheduled highlight of the June meeting of the Minneapolis Cine Club was the election of officers. Official nominations included Falconer Thomas, nominated for President; Fred Grabow and Dr. Cy Hansen, Vice-Presidential nominees; William Weber, nominated for Secretary; and Oscar Berglund, for Treasurer.

University Wants Horse Films

The University of California, Visual Extension Div., at Berkeley, California, is making an instructional 16mm. film on "The Evolution of the Horse," and are in need of additional scenes—16mm. Kodachrome only—which they feel may be found among the film-libraries of horse-loving cineamateurs. The scenes needed include scenes of horses at work on cattle-ranches, including roping cattle, round-ups, cutting out stock, etc. (but not commercial rodeo scenes!), preferably with pictorial desert backgrounds; typical "desert rat" with his burro and outfit, mountain or desert background; scenes of mules working, plowing, hauling, etc., including 20-mule team shots; pictorial shots of horses being ridden, worked, etc., in desert country, with range-riders, cowboys, mounted guards, and the like; pack-horses in trains, being packed and unpacked, along the trail, etc.

While the University cannot give screen credit for the scenes used, all films received will be acknowledged, and any not used will be returned, if the donors so request. For further information address Jack Robinson, Visual Extension Div., University of California, Berkeley, California.

Auricon RCA Licensee

The E. M. Berndt Corporation of Hollywood announces the signing of a License Agreement for the manufacture of Auricon 16mm. sound-on-film Cameras and Recording Equipment under patents and inventions of the Radio Corporation of America ("RCA"), General Electric ("GE"), and Westinghouse.

Record Library

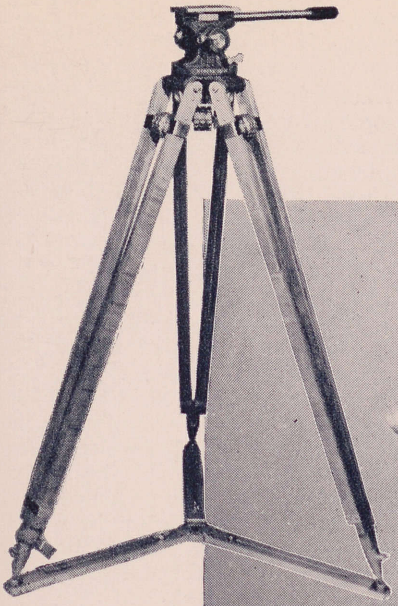
(Continued from Page 320)

and words immediately distract the audience's attention from the picture to the musical accompaniment.

For the same reason, a cardinal point in building a good picture-score is to use music which is not too familiar to the audience. A familiar tune always jumps from its proper place as an accompaniment to the picture, and intrudes—often with strictly personal associations—into the forefront of the audience's conscious attention. This, by the way, is a chief objection to using popular songs and dance-music for scoring purposes.

It is best, too, to keep your scores as simple as possible. It is very nice to have a score in which the musical mood changes with every change of mood, action or locale in your picture: but performing that score in the dark, while you project the picture before an audience, is a very different matter. You are more than likely to miss cues, and get things generally balled up. Much better to keep your score as simple as you can, letting each record accompany as much footage as it possibly can, and changing records only when you have to. The audience should not be conscious of record-changes and musical transi-

"PROFESSIONAL JR." TRIPOD



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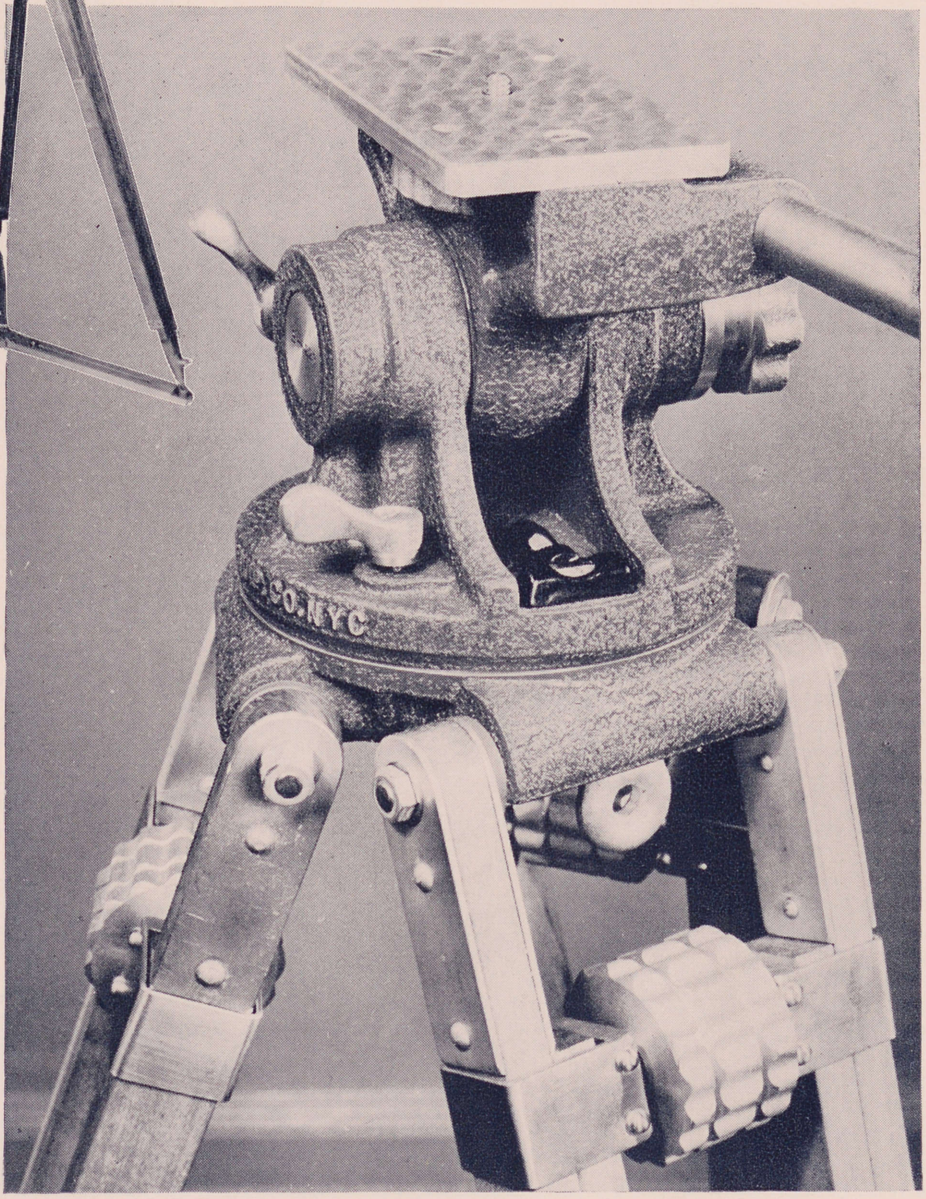

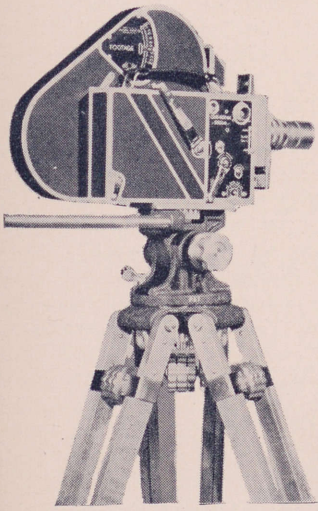

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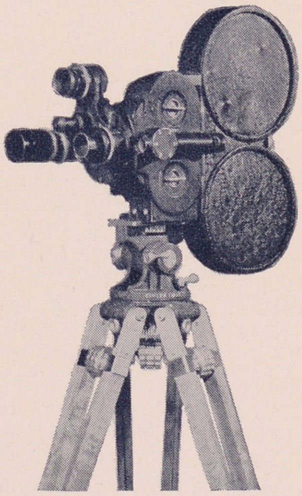

35mm Eyemo with motor and 400 ft. magazines mounted on "Professional Jr."

tons, but aware only that the musical accompaniment increases their enjoyment of the picture.

In achieving this perfection, the choice of appropriate music and perfect technique in performing the score are not the only vital factors: you will find that if the score is important to the picture, the picture is also important to the score. A picture that has been well and smoothly edited is an easy one to score; the difficult ones are those which have not been well edited. It is a favorite comment of the Editor of this magazine who, with his extensive record collection, has done a great deal of picture-scoring, that he would much rather score a reduction-print of an eight-reel professional feature like "The Covered Wagon," "The Last Laugh," or "Intolerance," than the average amateur's single reel of 16mm. or 8mm. The reason is that the professional film has been edited into clearly defined sequences, with an eye to definite visual or pictorial rhythm as well as dramatic moods, while the amateur film is too likely to be a hasty assemblage of almost anything, badly edited and with no thought to visual smoothness.

Though most amateurs have something of a record library, many of them seem still pretty much at a loss as to just what records are most appropriate for picture-scoring purposes. I hope that the accompanying list of records I have used for this purpose—all easily obtainable from RCA-Victor—will prove helpful. In each classification, I have listed several different pieces, so that sufficient variety will be available. However, if you're starting a scoring library, you can of course begin by buying only one or two discs for each purpose, and adding the others as occasion demands. Most of these records list at $1.05 each, though some are priced as low as 53 cents; the 50 records listed represent a total investment of only $47.91—and properly used, they'll add much more than that to the enjoyment of your pictures.

Sound Effects Records

The following records are primarily suited to the needs of amateurs. These records are ten inches in diameter and are recorded the same on both sides giving double amount of wear. The recordings are made at 78 R. P. M. and the individual effects last from one to three minutes, depending on the type of sound. Each effect is separated by blank spaces which enables the operator to pick out the effect desired with no difficulty. These records cost $1.50 each.

Record No.	Effects
SE-1	1. Fire Alarm Bell
	2. Telephone Bell
	3. Fire Engine Bell and Siren
SE-4	1. Train Whistle
	2. Steamboat Whistle
	3. Steam Escaping
SE-6	1. Thunder
	2. Carnival Scene
SE-7	1. Train Starting
	2. Train Running
	3. Train Stopping
SE-13	Aeroplane Taking off and circling
SE-14	Machine-Gun
SE-15	Wind Effect
SE-17	Whistling Effect
	Aeroplane falling
SE-18	Tank Effect
SE-21	Horses hoofs—Turf (Group)
	Horses hoofs—Turf (Single)
	Horses hoofs—Cobbles (Group)
SE-22	Machinery noises—constant
	Fire cracking—constant
SE-39	Bombardment
	Machine-Guns
	Tanks
SE-41	Wind
	Howling wind
	Rain and wind
SE-42	Thunder Storm
	Sea Effects
	Running Brook
	Water lapping against boat
SE-43	Works Siren
	Klaxon horn
	Electric horn
	Taxi horn
	Steamboat Siren
SE-2	Dog Bark
	Baby Crying
	Angry Mob
SE-3	Mixed Cheers
	Mixed laughter
	Applause
SE-9	Boos and Hisses (Mixed Voices)
	Wails (Mixed Voices)
SE-12	Idling Motorboat or aeroplane motor.

Indian Docmentary

(Continued from Page 317)

fifty feet when a big Indian appeared at my side with the suddenness of light. He had a message and it was short. I was to get out at once. No pictures. The message was from the Chief who was on the next island.

Feeling sure the old man did not recognize me at that distance I went over to where he was fishing.

"No pictures, too much money," was his reply in answer to my greeting. He had forgotten all about me and besides he was remembering past encounters with newsreel cameramen. It seems many times in the past he had given permission to these men to take pictures when they promised to show them in Washington and plead the Indians' case.

The Chief had found out these men had not kept their promises. In fairness to all concerned it should be said here one firm had paid all of seventy-five cents for permission to take some shots. I'm reliably informed that from now on anyone desiring to photograph these people had better plan on paying a fee for this privilege!

The old man moved away from me but I followed close at his heels pleading my case. An interpretor was called in and read my script to the Chief. I saw he was considering the matter in his own deliberate way. Once more he remarked "Too much money".

Since I had never intended to put the picture up for sale, realizing my own limitations, I finally overcame his objections with an offer to sign a contract. By the terms of the contract I would turn over to him and his people all funds collected in any way from sale, rental or showing the picture. In return for this he was to give me written permission to take any pictures I deemed necessary to tell the true story.

It was late afternoon before we had the papers ready, but I took a few shots to kind of start things off. Then the drive home and a wait of a few days before I could go up again.

On my next trip, I finished the fishing shots and turned my attention to the village proper. Here I was met with disappointment. Although the Indian men did not object to being filmed, their families ran whenever I came into sight. I knew better than to follow them. It was here that I sincerely missed having a four or six-inch lens!

Permission was finally given me to go into one of their houses. The women were told it was all right for me to be there. The babies never seemed to understand. I couldn't get close to them. It was so dark my meter, a Weston Cinemeter, registered only by the faintest flicker.

Working as fast as I could, and depending on Super-XX to do its usual miracles, I stopped abruptly when an Indian woman, knife in hand, objected to my pointing the camera at her. Well, I know when I'm not wanted!

I found the tripod very much in my way at times. Shots were continually missed due to the time needed in making a set-up. After a bit I used a camera-handle, shooting at a speed of 24 frames per second. Even then there was too much movement in some of the shots where I was working outdoors in a stiff wind.

It was here that I realized that in making a picture of this kind where it is impossible to create your own situations, a hand-held camera is the only thing. What if there is a little movement, as long as the shot is recorded as you want it?

Because of this, wipes, fades, and other special-effects were eliminated. It is my belief that in the future I'll eliminate all special-effects in the shooting and then install them in the dupe by optical printing. This will eliminate the worry, fuss, and bother of needless gadgets.

Using the picture of one of the shacks as a background I used titles printed on celluloid by Cliff Newlands in Hollywood, who does all of this work for me.

In writing my titles I felt the best way to approach the subject was to write them so that they, by themselves, told the story completely.

A sequence of the original treaty was cut out. Not very legible, it was felt that some of the struggle of these people could be told better if findings of fact in a court action were used instead.

In an attempt to show these people were not the dirty savages most casual travellers think them, I used several

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shots of drying clothes, hoping this would do the job.

Here are some of the high-lights of what I learned in making this film:

1. Be sympathetic with your subject-material.
2. Be sincere with your players.
3. Keep your equipment mobile.
4. Familiarize yourself with the actions of your players so you can anticipate situations and desirable shots.
5. Be thorough in your research. There are more than two sides to every problem.
6. Make sure you need that shot before you press the button. This will save you money.
7. Make arrangements beforehand—in writing—for permission to make your picture.
8. Take your time.

Then you may come out with a picture which, viewed strictly as a picture, is not only a bit out of the ordinary, but one which will also do something helpful for the subjects who cooperate with you in putting their story on the screen.

Police Movies

(Continued from Page 316)

dents. And before long, the Traffic Education Unit found itself the proud possessor of a 70D-A Filmo, an Ampro-sound projector, and all the necessary accessories including a year's supply of film and official instructions to go ahead and make movies on traffic safety.

Sergeant Sheldon made the first film himself, virtually single-handed. And in doing so, he learned from hard experience that while pictures like this *can* be made by one man, doing them really well calls for the coordinated services of several. There's a man-sized job in just organizing the making of a picture—seeing to it that story ideas and treatment receive official OK's, that equipment and people are assembled at the right time and place so that each scene can be shot, and, in fact, coordinating all of the innumerable details which must be knitted skillfully together before a camera can turn. He learned, too, that handling the actual direction and photography is another man-sized task, and one which, for best results, ought to be in the hands of someone who doesn't have to worry about whether or not Sam Smith and his Blue Chevvie will be on deck at 9:45 tomorrow morning on Los Feliz Boulevard to shoot such-and-such a scene.

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It was at about this time that Sheldon discovered Dan Phillips. Dan was primarily a still-photographer, but when they turned him loose with the Filmo it was soon discovered that he had a natural instinct for cinematic expression—particularly cuts, timing and camera-angles—and a flair for directing that's a good deal better than you see in most directors of 16mm. commercial films. And right across the desk in the Traffic Education Unit's office, Sheldon discovered Jim Glavas, who does a better-than-average job of writing scripts and narration.

So they teamed up. The way they work now (and have on two increasingly successful productions) is that they collaborate on evolving a filmable story which will help them get over some needed point in traffic safety. Then Sheldon gets official approval and starts the flow of men and equipment going.

Meantime, Phillips breaks the story down into a definite camera-continuity, and takes care of the actual shooting. The actors are usually fellow-officers (sometimes in uniform, sometimes in civvies, as the action may require), supported by their wives, families and friends. In the latest picture, "Foot-Faults," the RKO studio "loaned" Kay Kyser and Sally Wadsworth to lend professional humor and eye-appeal to the police film.

When shooting is over, Phillips stows his camera away in its locker, and takes over the job of editing the picture, while Jim Glavas busies his typewriter with turning out an appropriate narrative.

As soon as these tasks are completed, the producing triumvirate "preview" the picture for Captain Parker, reading the narrative through the Amprosound's microphone. And when Captain Parker feels the presentation is correct, the three tackle the making of the sound-on-film recording. Sometimes this had been done on the Berndt-Maurer recorder used in the Cinematography Department of the University of Southern California. On other occasions, the recording has been done by a commercial 16mm. sound-film organization—Telefilm. And once, the original recording was done on a carefully synchronized acetate disc, and then re-recorded to film.

Finally, the picture is completed, and a composite sound-and-picture print made. Then it is ready to go out with the Unit's several speakers, to be shown to clubs, lodges, PTA groups, school traffic-safety classes and organizations, and in general to prove its worth by actually making people think of the importance of driving and walking safely. Often a single print may receive three or four widely-spaced showings within a single day. All told, thousands of Angelenos have seen these films, and absorbed their lessons in safety.

The results—? Well, the pictures must certainly have hit their mark, for they have become increasingly in demand, and have elicited favorable comments at every showing. They must be successful, for requests are coming in from police forces in all parts of the country, asking for showings of the Los Angeles films, and one of the best-known distributors of 16mm. educational subjects has undertaken to make these and future productions available nationally. And future productions there will be! Plans are already under way for several, some of which may well be shooting soon after this appears in print. As if that wasn't evidence enough of success, the Traffic Education Unit's new headquarters, now being completed, have provision for rooms which will be exclusively devoted to projection, to cutting, title-making, and even to shooting interior scenes.

Phillips and Sheldon feel the possibilities of police movie-making are only just begun. "Police Departments everywhere have a bigger, harder job than ever, with the war on," they point out. "Especially in cities which, like Los Angeles, have tremendous new traffic problems created by war industries, and which may at any time be complicated by wartime emergencies. Movies such as we're making can help solve these problems by bringing home to the public—adults and children alike—what we policemen are trying to do for them.

"We hope that what we've done will be just a start, and that the Police Departments in the other large cities will find it possible to follow suit, making pictures adapted to their specific problems.

"And while the police in smaller cities may not be able to do this sort of thing themselves, we hope that maybe the fact that we've made these pictures, working with amateur equipment and pretty well as amateurs ourselves, may suggest to individual amateurs and members of amateur clubs throughout the country that they can do their fellow-citizens a real service by helping their police make pictures which will help make wartime America more traffic safety-conscious!" END.

Golfer's Wife

(Continued from Page 315)

but you can read "PRESENTS ULTIMATUM!"

Scene 29-a: Continuation of Scene 29. Marge definitely gets an idea, and looks determined. SLOW FADE OUT.

Scene 31: SLOW FADE IN: Close-up of living-room clock. Hands point to 6:00.

Scene 32: Two-shot, Marge and Joe at dinner-table. Marge is talking, Joe trying to edge in excuses.

Scene 33: Close-up of Marge, talking.

Title: "I'm tired of being left alone. You'll have to teach me how to play, too!"

Scene 33-a: Continuation of Scene 33. Marge finishes speaking.

Scene 34: Close-up of Joe. He shows relief, and nods agreement. FADE OUT.

Title: (FADE IN) THE NEXT SUNDAY. (FADE OUT.)

Scene 35: FADE IN. Long-shot, at First Tee. Marge and Joe walk in. He tees up her ball, and shows her how to swing, then, after pointing direction of hole, steps aside. She gets off a nice, long drive.

Scene 36: Close-up of Joe. He registers amazement.

Scene 37: Close-up of Marge. A faint look of disappointment crosses her features.

Scene 38: Medium long-shot. Joe drives. The ball goes only a few yards. WIPE TO:

Scene 39: Medium long-shot on green. Marge's ball is closest to the pin. She sinks it in one putt. Then she holds the flag while Joe takes three to get in.

Scene 40: Close-up of score-card: Joe's hand marks down a 3 for Marge—a 6 for himself.

Continue these scenes *ad lib* throughout the round, adapting the action to the requirements of your golf course. All the way through, Marge plays like a champion, and Joe does everything wrong. He hooks and he slices; his ball lands plop in the water-hazard, gets caught in the sand-trap, and so on. His putts are terrible, while Marge's are wonderful. All through it his score grows, while hers stays down in the threes and fours, with maybe a hole in one. And all through it, you see Joe slowly changing from amazement to being hot and flustered. Marge, on her part, seems to be growing increasingly irritated. Finally, on finishing the last hole:

Scene 70: Close-up of score-card, as Joe totals up a two-below-par score for his wife—and a 107 for himself.

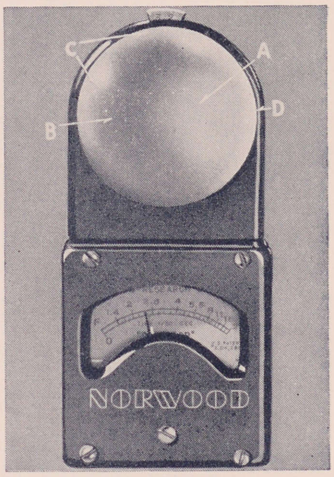
Scene 71: Two-shot: Joe shows the score to Marge.

Scene 72: Close-up of Marge. She's definitely unhappy about something. She speaks.

Title: "I'm sorry I'm such a dub. Do you think I'll *ever* learn to get a nice, high score like yours?"

Scene 73: Close-up of Joe. His jaw drops his eyes roll with amazement. Suddenly he falls straight back out of the picture. QUICK FADE-OUT.

Title: THE END.



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Diffused Lightings

(Continued from Page 314)

folks sunburn on a cloudy day—that's the infra-red that seeps through the clouds unnoticed visually.) This excess of the ruddy end of the spectrum will naturally give your picture a ruddy tinge—not so great as you get when you try to shoot Kodachrome just before sundown, but quite ruddy enough to be decidedly displeasing if you're at all particular about the color-balance of what you put on the screen.

But where the sun is screened—rather than hidden—by an overcast of comparatively light haze, you've got the ideal natural condition for making flattering Kodachrome close-ups. Try it!

If you're one of those filmers who like to work on scenario pictures, you should be in a position to use more professionalized equipment. I've known plenty of amateurs, both individuals and clubs, who specialize in scenarios and make use of such professional accessories as reflectors, and even dollies and microphone-booms. People who do their filming on that scale shouldn't have any trouble at all in making and using some of the simpler gadgets we professionals use to diffuse sunlight. Luckily, in these days

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of priorities and rationing on everything from the camera you'd planned on buying this year to that second lump of sugar in your coffee, these gadgets can be made at home, with nothing more than a few pieces of wood, some nails, nuts and bolts from the dime store's as yet unrationed stock, and some cloth.

Professionally we often use overhead scrims—big panels of muslin or gauze netting suspended on ropes over the area in which our action occurs. And I mean big: I've seen some a hundred or so feet square. These are rather obviously out of the range of most amateur filmers.

But we also use smaller ones. I've used some which were perhaps eight or ten feet square, and instead of being suspended overhead, were attached to wooden poles—1x1's, perhaps ten feet long. These scrims would be held upright by the hands of a couple of husky studio "grips," and placed so that they diffused the light falling on the principal players.

Sometimes these scrims are stretched on a rectangular wooden frame, which is attached to a pair of wooden uprights so it can be held in place at any angle over the heads of the actors, or between them and the sun. Contradictorily enough, we often use "booster" spotlights under and around these scrims to pinch-hit for the sun in producing the back-lighting and often the modelling lighting we want. It may not be as strong as direct sunlight, but it's softer, and more controllable!

Another and simpler type of scrim is used when we are making a comparatively close shot of only one or maybe two people. The diffusing material is stretched over a hoop perhaps three or four feet in diameter, and the hoop, in turn, is mounted at the end of a pole, by which it can be held in any position necessary to diffuse the light on a person you're close-upping. This gadget is very easily made, and can, of course, be built in demountable form, so that you can take it apart and transport it anywhere in the back seat or luggage-compartment of your car—if you're lucky enough to have the gas and tires to drive with!

As to the fabrics for use in these diffusing devices, you've a rather extensive choice. Sometimes we use white muslin. Sometimes we use a fairly fine-mesh black gauze netting. Cheesecloth, which is easily obtainable almost anywhere, would be very good, either in its natural state, or dyed black. And of course you can fit the diffuser to the effects you want to get by using either a single layer of cloth or making it a double or triple-layer scrim.

At any rate, I'm very sure that if you once try this idea of using diffused lighting for your closer shots of people outdoors—especially in Kodachrome—you'll never again attempt to photograph color close-ups in harsh, direct sunlight. You may think your girl-friend is young enough and pretty enough so that direct sunlight only makes her look even prettier. But make a comparative test—two shots, one in direct sunlight, and one in diffused sunlight—and you'll see why we professionals use diffused light even when we're Technicoloring the industry's top "glamor girls" outdoors! END.

Gasless Vacation Movie

(Continued from Page 313)

With a few similar shots, showing yourself changing reels, and your wife commenting on other well-remembered vacations, which of course call for the running of other reels, you can bring in filmic reminiscences of as many other vacations or vacation-spots as you wish.

Finally, you can end your picture with a shot showing the lights coming up, followed by close-ups of your wife and yourself remarking, via title, that even if rationing prevents you from going a-vacationing this year, your movies make it possible for you to re-live past vacations—and as yet there's no rationing of movie memories.

Which is perfectly true! END.

Mike Boom

(Continued from Page 311)

place to place, you can make this upright from a single piece of lumber.

But in mine, I used two pieces of 2x¾″ stock, each 3′6″ long. As you'll see from the drawing, drilled a ¼″ hole at the end of one, (the lower one), along the center-line, and another hole, located near the edge, about 3½″ below it. At the end of the other member, I made a 2½″ slot along the center-line, and two smaller slots or notches, as shown, in the end and side of the board.

The two pieces are held semi-permanently together by a ¼″ bolt which passes through the center-line hole and slot. Through the off-center hole in the lower piece I ran a ¼″ bolt fitted with a wing-nut and washer. When the standard is set up, this bolt fits through the slot in the end of the upper member, and the wing-nut locks the two sections rigidly together. But by loosening the wing-nut and sliding the upper member a trifle upward, the two sections can be folded.

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In the folded position, the slot in the edge of the upper section engages the locking bolt, and by tightening the wing-nut the two members are locked in the folded position. Another wing-nut and bolt fastens the two legs forming the base together, and locks them in either the opened or closed positions.

There are several refinements you can add to this gadget if you want to. For instance, you can simplify the maze of trailing lamp-cables that always bother us when we shoot interiors if you mount a two-outlet box on the upright, and extend a single feed-line down from this to a connection (a male one is safest) in the base, into which, in turn, you can plug a single feed line.

And since directing the photography of our Club's recent Civil Defense picture, "Fire from the Skies," where we had to build an overhead scaffold to carry lamps to illuminate a rather large and deep set from above, I've felt the need of another accessory to this lamp-stand. Begin with a pair of these stands. Then make yourself a pair of longer upper members which can be fitted in place of the regular ones. Since the original sections are 3′6″ long, you'll probably want to make the extensions at least 4 or 5 feet long. They'll fit to the lower members in the same way as the regular ones do.

But at their upper ends, provide square slots, into which you can place the ends of a horizontal cross-member connecting the two upright standards. This cross-bar can be in two sections, folding in the middle the same way the uprights of the lamp-stands do, and for strength, you had better fasten it rigidly to the uprights with a pair of bolts and wing-nuts. Along this, you can place the clamp-on Photoflood units you'll need to give your scene front-lighting and to reach deeper into your set than you can with lamps placed at the sides of the camera field. We amateurs don't often have big sets to light—but when we do, here's one way to light them easily and efficiently. END.

Stan Cortez

(Continued from Page 305)

in the middle of the scale'—that he weakened, or maybe even lost the emotional value of that scene.

"This will probably sound like heresy to the exclusively technically-minded, but as far as I'm concerned, it doesn't matter a bit to me whether a scene prints on light 3 or light 21—so long as I get the visual effect I'm seeking! If I miss that, even though the scene is technically flawless, I consider that I've missed on that scene. After all, the technicians have given us a really remarkable degree of technical leeway in our medium: our modern negative emulsions have much more latitude than most of us give them credit for, and this is further increased by the control possible in developing, and printing. Why not make the most of it, if it will help us in getting the artistic and emotional effects which are the real *raison d'etre* for our picture?

"On the other hand, certain technicalities are inextricably bound up with the artistic and emotional values of cinematography. Some of them—like lighting balance—are obvious; a scene in which the lighting is out of balance is almost certain to distract the audience's attention from the dramatic and emotional values we're trying to convey.

"Another of these factors—and one too often neglected — is observing the proper continuity of diffusion. If we see a sequence in which the star, for example, is heavily diffused, while the intercut long-shots or the close-ups of the leading man show little or no diffusion, we're abruptly jerked away from story, and made — at least subconsciously — aware of the mechanics of photographing it. The same thing applies in a lesser sense to the use of different degrees or types of diffusion on scenes which are to be intercut.

"It can apply to almost every phase of cinematography. Indeed, good dramatic cinematography is not so much 'holding up a mirror to life' as it is holding up a subtly distorting glass to create an illusion that is more realistic than reality itself. Repeatedly we have to do the unnatural thing in lighting, diffusion, camera-angles, perspective or filtering to create an impression of dramatic realism.

"Indeed, the definition some famous actor—I think it was George Arliss—once gave of acting, could very well be

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applied to dramatic cinematography. He said it's 'being unnatural—without getting caught at it.' And that is what we cinematographers must do. We try to convey the impression that our camera was somehow privileged to eavesdrop on a group of real people undergoing some actual experience. To get that impression, we must often make use of every technical trick and artifice at our command, even though we may be forced to do things that seem unreal, or violate established technical conventions. But as long as we convey that impression of realism, and point up the dramatic and psychological aspects of the action, we're succeeding in our work!" END.

16mm. Print Problems

(Continued from Page 304)

and specks on originals is not sufficient reason to decide in favor of reversal over negative, but it is one added advantage which reversal can claim for its case.

The same argument presented above for dust spots also applies to film splices in 16mm. Splices are less noticeable in prints from reversal or Kodachrome originals than from negative originals, and for the same reasons that dust particles are less noticeable.

In 35mm., the frame-line is so wide that it is a simple matter to make a splice between frames which will not be visible on the screen. In 16mm. film, the space between frames is so very small that it is impossible to design a lap-over splice which does not cut into the picture-area. As a result, a dark line appears at the splice which prints white from negatives and black from reversals.

The principal advantage that reversal processes offer over negative in editing, is that fades, dissolves, wipes, double-exposures, etc., can be put in when the duplicate negatives are made from the reversal original. The process of inserting fades, dissolves, wipes, etc., involves double-printing with complementary masks (as described in detail in a later article) which requires that three films—the mask, the original and the raw-stock be run through the printer simultaneously. After the first printing with three films is completed, the raw-stock must be exposed a second time using the complementary masks, and a complimentary original.

Since this method of double-printing with three films is rather involved, it is most convenient if it can be done only once or twice in the making of one or two duplicate negatives from which all further release-prints are made. After the fades, dissolves, wipes, etc., have been printed on the dupe negative, all the masks, complementary originals and double-printing can be dispensed with and release prints can be made in a single operation by contact printing.

If this method of making fades and dissolves is used with original negatives, the process of double-printing with three films must be repeated each time that a release print is made. This extra handling increases the cost of release-prints made from original negatives but does not materially increase the cost of release prints from reversal originals.

If a 16mm. reversal fine-grain negative duplicating stock is ever manufacfactured, of course this process of double-printing with three films could be done in making the reversal duplicate negatives from original negatives. Then release prints could be made in one operation from the duplicate negatives. There is also the possibility that some film manufacture will introduce a fine grain master-positive stock in 16mm., comparable in results to the 35mm. master-positive or "lavender" stocks, from which duplicate negatives could be made with all effects inserted.

However, at present, for films in which effects are desired, it is best to make the "master positive" in the camera on reversal film. If negative film is preferred, then the effects should be inserted at the time of shooting unless only a small number of prints are required and print cost is no item. In the latter case, the same processes can be used with original negatives in making release prints as are used with reversal originals in making duplicate negatives.

One of the principal advantages which the experienced 16mm. producer has over his 35mm. competitor, is the fact that he can produce films in color on Kodachrome for a cost only slightly greater than producing in 16mm. black-and-white, and generally less than the cost of producing in 35mm. black-and-white. In the field of direct selling or institutional films for consumer audiences, the tremendous advantages of producing in color are apparent. Also in many educational film subjects, color adds a great deal to the educational value of a film.

Color is not without its disadvantages, however. Although film and production costs for color do not exceed 16mm. reversal costs appreciably, the problem of lighting for Kodachrome shooting is greatly increased. Kodachrome requires about 10 times as much light for a correct exposure as do the faster black-and-white reversal films. For exterior shooting, this fact adds no problems except the weather. For interior shooting in a studio, no compli-

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cations are introduced except that the heat and intensity of lighting for Kodachrome is uncomfortable for the production crew and the actors.

But for location interiors, the intensity of lighting required for Kodachrome is a very serious limitation because, unless the 16mm. producer has his own portable generator, it is usually impossible to get enough current for anything but close shots. Most industrial plants, offices, schools, etc., where location interiors might be made are usually operating near full electrical load. When a lighting set-up calls for an additional 200 amperes or over 20,000 watts, either the fuses blow out, the wires become dangerously hot or the voltage drops so much that proper color temperature cannot be maintained in the lamps being used. In lighting the same scene for a black-and-white reversal or negative film, 2000 or 3000 watts would probably suffice.

In many sky-lighted factories, there is sufficient daylight for adequate exposure on the fast reversal films such as Eastman Kodak Super-XX or Agfa's Triple-S Pan.

Also because of the complexity of the processing of Kodachrome film, it is not as dependable as black-and-white negative or reversal film. It has frequently happened that the shooting of an entire location trip has been ruined in processing, necessitating expensive and embarrassing retakes. With black-and-white negative or reversal films there are very few things that can go wrong because the processing is very simple compared to Kodachrome processing.

Another disadvantage of Kodachrome film production is the comparatively high cost of duplicates. Satisfactory Kodachrome prints cost about five or six times as much as good black-and-white prints.

So far it has not been possible to get a satisfactory Kodachrome duplicate from another Kodachrome duplicate. This means that all prints must be made from the original, so there is a definite limit to the number of prints that can be made from a Kodachrome production. Since the original must be used for all printing, it eventually becomes worn and abraded scratched and dirty so that further copies cannot be made from it. The practical limit of prints from a Kodachrome original is in the neighborhood of 100 to 150 on existing printing equipment. For commercial films, this is generally no problem because few commercial sponsors need this quantity of prints. For educational films however, it is conceivable that 500 or more prints of a subject could be sold; this is beyond the capability of a single original to print.

However, during the past year certain developments have occurred which make it possible for the producer who needs a great number of release-prints from a Kodachrome original to at least partially circumvent this difficulty. Two processes are now commercially available which make 16mm. color-prints from black-and-white separation negatives as is familiar in 35mm. color work. These processes—Cinecolor and Gasparcolor—are available in either two-color or three-color versions. In each, selectively-filtered color-separation negatives are made from the Kodachrome original, and the release-prints made from these negatives. In the Cinecolor method, the print is made on double-coated positive stock, which is developed and subjected to the usual dye-toning operations of the Cinecolor printing process. In Gasparcolor, the printing is done on a special, multi-layered positive stock, as described in a recent article in THE AMERICAN CINEMATOGRAPHER.

The result, in either instance, is to make possible the production of an almost unlimited number of release-prints in color from a Kodachrome original. In strict accuracy, it must be admitted that the results of these processes do not always result in an absolutely perfect duplication of the color-rendition of the original Kodachrome. But the result, where three-color printing is used, is a decidedly acceptable color print which in most cases will prove adequate where no direct comparison with the Kodachrome original is involved. The same, it must be observed, applies to direct Kodachrome-to-Kodachrome duplications, as well.

In addition, excellent black-and-white duplicate negatives (or reversal duplicates) can be obtained from a Kodachrome original where monochrome release-prints may be desired. Many producers of educational pictures take advantage of this to enable them to provide release-prints of their picture in color, for institutions able to pay the necessary price, and in monochrome for outlets not able to pay the added cost of color. Quite a few commercial producers, also, have used this method of photographing the original in Kodachrome and making release-prints in black-and-white because they feel it gives them a finer-grained release-print than is obtainable otherwise with the 16mm. laboratory facilities available to them. *(To be Continued.)*

Animated Cartooning

(Continued from Page 303)

convenience, effects are generally animated on a cell level separate from any of the characters. If effects are to directly contact a character, the animator handling the character will usually suggest roughly the placement of such material, but leaves the exact drawing and timing up to the effects animator. There is just as much of a problem in animating a stream of water to look and act like water as there is in registering a convincing feeling of surprise on the character it hits.

Effects are looked at in sweatbox showings in the "rough", just as character animation, and judged similarly. If the action looks okay, the go-ahead signal is given for cleanups and final inbetweens, and when these processes are completed, a last test is shot of the en-

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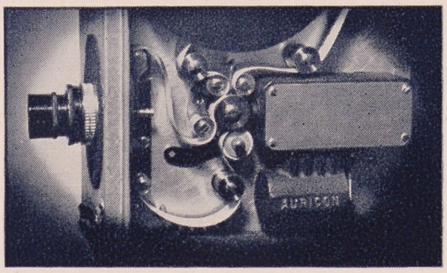

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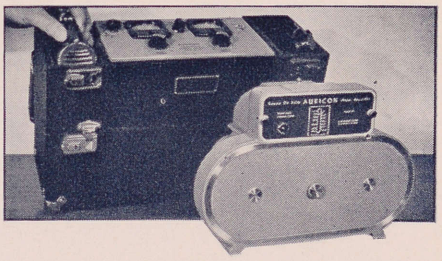

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tire scene, for a final checkup before moving it on to the inking and painting departments. Very rarely are any radical changes suggested when a "cleanup test" is viewed by the director, and such changes as might result generally concern minor alterations in timing or camera moves. All of the factors of a scene have been pretty thoroughly combed-over by the time the animation reaches cleanup stage, and from there on in it's the home stretch without interruption, winding up under the Technicolor camera.

However, with the possibility of change always present in a creative product such as an animated cartoon, no one concerned with production completely uncrosses their fingers until the picture is actually jerking through the projectors in the theaters!

(The final phases of cartoon production—inking, painting, photography and re-recording, will be outlined in a succeeding installment.)

Documentary Films

(Continued from Page 299)

himself. But this is such a basic necessity for the quality of your film that you must enforce the rule even though it hurts you. I find an instance of this in my Chinese diary:

"April 13, 1938.

"The ambulance corps does not have enough stretcher bearers so that the peasants of the villages work in relays, taking the wounded from their village to the next, where those peasants in turn take them, and so for miles and miles. The base hospital is far, and there are no roads. We film this.

"I asked Dick (the Chinese interpreter) to try to have the bearers and the wounded not look too obviously at the camera. He doesn't respond as he usually does, and the directions he gives are too vague. I see that the picture will not give the audience the feeling of naturalness, so I ask him to be more to the point with them. He refuses and runs away, and we continue the picture as best we can, and use the only three Chinese words I know. Good thing I learned them. *Boo yao kaan:* Don't look this way. It works, but a little mechanically.

"Later, on the way home, I have a long talk with Dick. In a way he is right. He says, 'I couldn't yell at my own people, they fought so hard, got badly wounded. I have too much respect for them therefore I am silent. Directing them not to look would be cruel; I would like to help them.' There we are! Of course, we also. But our way is to make a good film, to move people by its high professional quality. Then they will feel and understand that the wounded soldier needs a good stretcher for his very life. . . . Of course, objectively, it seems indiscret and shameless to go so deep into sorrow and private life and emotions, but we learned in Spain and in working with poverty-stricken coal miners of Belgium that you have to do this. It is difficult, I can understand Dick. After filming scenes of wounded soldiers, of terrible things in the villages you are more deeply moved than ever, and the feeling of indignation against the Japanese military setup responsible for this becomes even stronger, and with that the will to do something about it. That is part of the tension which you get back many months later in the cutting-room in New York, alone with all the film material, when you shape it into an artistic form which will make clear what you have to say to everyone in the audience.

"Dick begins to feel that we were not so cruel as he thought . . ."

Back in the cutting-room there is a new set of problems and several new collaborators.

The editor is one of the new working group. His work with the director requires as much team work as the director and cameraman in the field. Although the first job of the editor is to follow the director's directives, the editing process is as creative as the function of the cameraman or the composer. Here the editor must have a sure feeling for rhythm because the quality of the documentary cannot depend on a star or other artificial supports for holding an audience's interest.

If there are any weaknesses in the material the director must confess all to the editor, who is the only one who can help to correct any basic faults. Secrets kept from the editor are a risk to the solidity of the finished film.

All the rushes should be shown to the composer before cutting. To see the material at this time gives him a broad idea of it and also gets him started on the key musical ideas. He will see a journey, a sand-storm, a battle, a pastoral episode, that will certainly need music.

But the silent cutting has to be complete before the composer can be asked to actually write the music for the film, although small adjustments may have to be made by both director and composer after the writng and before the recording. Even after the recording, there are possibilities for further accenting of the music by shifting shots during the sound cutting. The composer can be a great help with suggestions for the cutting and timing of visuals.

The writer of the commentary (not necessarily the author of the film) has to work this same period, and with much the same method. He had best keep his nose close to the Moviola, and derive his ideas as much from the film as from the script.

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I believe that the documentary film-maker has a great responsibility to his audience. The very absence of a fictional coating is almost enough cause for this great responsibility, but add to this that we are constantly touching unfamiliar social themes and concepts, and to influence people's opinions on these closer, but more unusual subjects is a considerable task. Today, those of us who are making documentary films (and that now includes an increasing number of directors, writers and cinematographers from the entertainment-film field) have the added responsibility of making our films and the message they convey play a dynamic part in the War Effort. But if our responsibilities are increased, so, too, are the possibilities our films can realize, and it is not, I hope, over-optimistic to predict that under this new impetus, we shall have the opportunity of proving—on a larger scale than we ever enjoyed before—our contention that the documentary film, intelligently handled, is capable of doing a truly great and constructive work for society. END.

Boom For Miniatures

(Continued from Page 297)

mounts, while the boom-arm itself is raised, lowered or revolved manually, by a separate crew.

In addition, a series of levers overhead control electrical current fed through the supporting wires to the plane, not only to spin the miniature propellor, when necessary, but, operating through relays, to work any special effects that may be desired, such as smoke, fire, explosions, and dropping bombs, flares or parachutes.

These relays may be pre-set and operated by remote control from a single button, so that the director, with this button in his hand, can set off his effects himself, knowing that, say, the first trip, a machine-gun will fire, at the second, a bomb drop, at the third, smoke will appear, at the fourth, a fire will start, and at the fifth, the plane may explode and break up, and so on. As seven or eight relays are available, and may be pre-set in any desired sequence, an almost infinite number of possible combinations of effects is possible.

The boom may be used in many different ways. We have used it with a stationary camera, and with a camera mounted on a dolly or camera-car travelling beside the miniature plane. Where the boom itself is moved along a track, the duration of "flights" will be limited only by the dimensions of the set or backing used. Even when the boom itself is stationary, it is possible to obtain a surprising effect of straight flight by revolving the boom-arm and keeping the arc of the flight-path straightened out by rotating the two mounts at the end of the boom. And by combining the various movements possible with this device, almost any evolution is possible. We have made planes approach the camera, dive, circle, climb and then fly away again, and thread their way in and out of the smoke of miniature forest fires with remarkable realism.

The use of this boom is supplemented by a large, outdoor sky-backing which, while built especially to simplify the exposure problems of the Technicolor miniatures for "The Forest Rangers," seems certain to prove almost as useful as the boom itself in meeting the increasing need for miniature plane shots in the future. END.

Slater

(Continued from Page 296)

very conspicuous pilot-light is dark. A manual switch is provided so that the slating lamps may be turned off if long periods elapse between one scene or set-up and the next.

The design for this slater was conceived by Warner Camera-Chief E. B. ("Mike") McGreal, and engineered by A. W. Tondreau of the studio's precision mechanical department. "In developing our slater," says McGreal, "we designed and actually constructed three other designs over the period of the last two years, not to mention some others which never progressed beyond the drawing stage, before we evolved a design which met the requirements we had set for ourselves.

"Briefly, we wanted a slater which would be as nearly automatic—call it foolproof, if you like—in operation as was possible. We felt that a scene-slater should, if possible, require no manual manipulations on the part of the camera-

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crew beyond those involved in operating the camera normally. We felt that the slater should be as nearly as possible self-contained within the camera: not only for its own protection from physical damage or misalignment with normal service handling, but also so that it would not in any way interfere with the normal manipulation of the camera on even the most intricate follow-shots.

"We also felt that the slater, to be really effective, should work independently of the camera's photographic optical system. There are several reasons for this. For one thing, if the slater is photographed through the camera-lens, its image will change in size according to the focal length of the lens in use: a dial that will give a normally large, legible slate with a standard 50mm. lens will produce a very small image—perhaps no bigger than a hand slate—when a wide-angle objective like a 24mm. is used, and conversely, when a long-focus lens is used, the image of the slate may be so enlarged that all the needed data may not appear on the frame.

"Moreover, slating through the lens has other disadvantages in that the diffusion, filtering and focal setting of the camera-lens will affect the legibility of the slate.

"As I have said, we experimented with a number of designs, and I think this final one meets our requirements very completely. With the exception of the small tablet which carries the dial, the entire device is contained within the camera. In use, aside from making sure the slater's light-source is switched on, as shown by the pilot-light (a necessary feature since in some instances an hour or more may elapse between scenes, and there is of course no need for keeping the slating lights burning throughout this period), the operation of the slater is so fully automatic that nothing is required which is not part of normal camera-operating practice. The slater automatically provides a sync-mark, and makes its record of scene-identification data on the film otherwise wasted in bringing the equipment up to speed. Since the slater is wholly independent of the camera optical system, it always provides a completely legible, full-frame slate, regardless of the diffusion, filtering or focal setting used for the scene, and there is no need for correcting focus or exposure between slating and starting the action of the take."

Tondreau points out that with the single exception that the slater's lights are not turned on by tapping the motor line (a practice the sound engineers deemed inadvisable as it might, under some circumstances, impair synchronization of the camera and recorder motor systems), the slater's operation is completely automatic. "All the thought the camera-crew has to give to this slater," he states, "is to keep the information on the data dials correct, and rack the camera into shooting position after, rather than before the motor is started. This latter is a pretty common practice, anyway, as most cameramen like to take a last-minute look through the lens before shooting.

"Exposure for the slate portion of the scene is pre-set to a correct average value, and since the built-in resistor is variable, may be altered very easily to match the exposure values of interior or exterior scenes, or for different types of film, etc. We have worked out these settings so that under all normal conditions the slate portion of the negative will print correctly in the middle of the printing scale, on light 13, so that on any normal negative we can be assured that the slate, though printed for the density of the scene negative, will be fully legible. And if the cinematographer should change from the usual Plus-X to, say Super-XX for any special purpose, or Background-X for exteriors, the Assistant need only loosen a lock-screw and re-set the resistance to a predetermined calibration to keep his slate-exposure normal."

The new slaters are already in use on several of the studio's production cameras, and are being installed on all of them as rapidly as production schedules permit. END.

British Technicians

(Continued from Page 295)

or sound-recorder than they ever could be as a rear-rank private.

The functions of these Service Film Units are: (1) production of training and instructional films for their respective services; (2) taking of films for record purposes; and (3) production of films for propaganda and distribution to the public. As regards this latter, some of the best newsreel stories and documentary films have been provided in this way, as chronicled in THE AMERICAN CINEMATOGRAPHER during recent months by Capt. Harry Rignold, of the A.F.U., who filmed the Commandos' Norway raids, and Capt. Osmond Borradaile, of the same Service, who filmed "The Lion of Judah" during the liberation of Abyssinia, and has recently been invalided home with wounds received in the Middle East.

It should be mentioned, by the way, that in the British Army the A.K.S. has the job of making record and propaganda pictures. Where necessary, these units undertake studio productions, as well as the more routine all-exterior work.

The Army Film Unit have got together a number of battle cameramen whose duties are to be in the front line. In addition to the stories mentioned, these chaps have got some excellent stories in Libya and other regions.

In this work, as the combined War Effort of our United Nations extends around the globe, the cinematographers and other technicians serving in the Film Units of our Army, Navy and the R.A.F. will almost certainly find themselves serving shoulder to shoulder with members of similar units with America's Army, Navy, Marine Corps and Air Force. I am sure that many of these men are known to each other through their work on the screen, and it is to be hoped that these cinetechnical reunions-in-arms in the far corners of the world may lay the foundations of a world-wide brotherhood of film technicians which will help us all to make better pictures, wherever we may do so, after the Victory is won! END.

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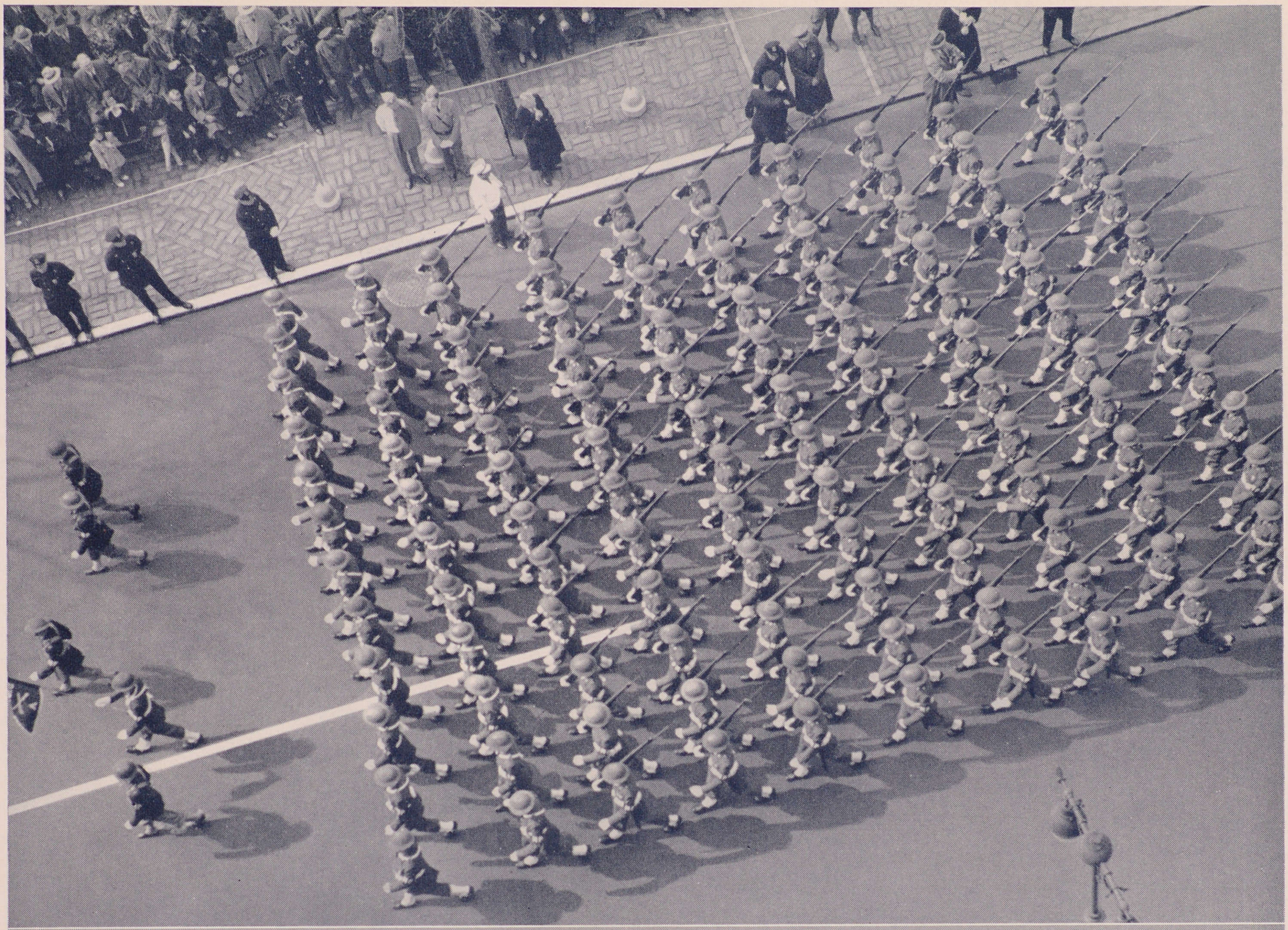

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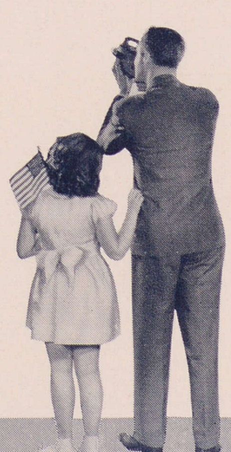

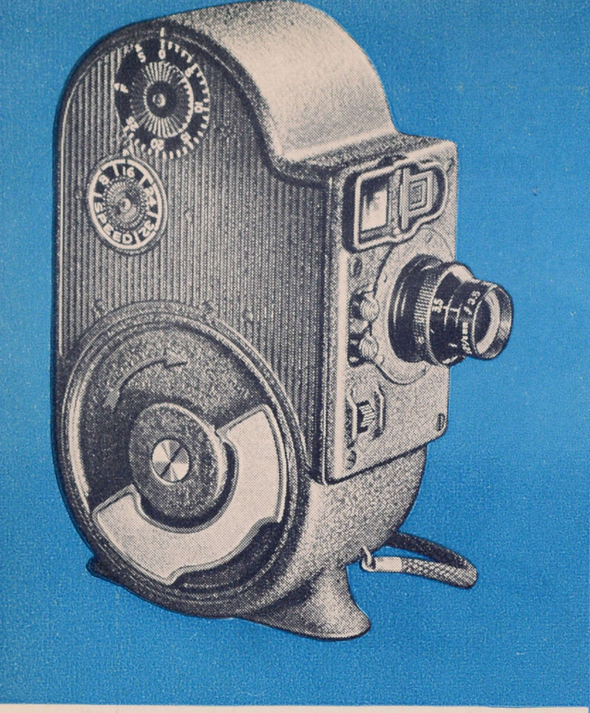

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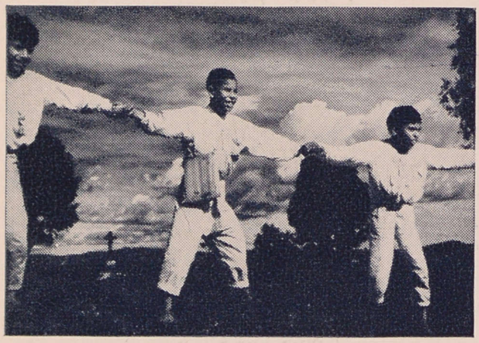

Latin American children play games, too

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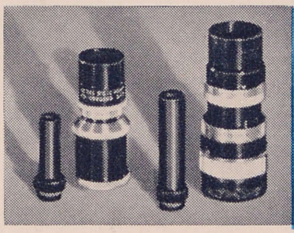

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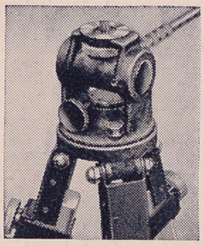

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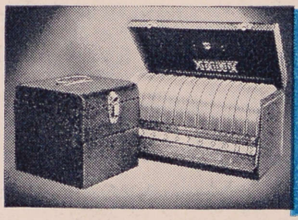

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